# THE WALL STREET JOURNAL.

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## What's News

### *Business & Finance*

**Apple plans** to significantly expand its data-encryption practices, a step likely to create tensions with law enforcement and governments worldwide as the company continues to build new privacy protections. **A1**

◆ **Federal lawmakers** dealt a setback to Boeing, proposing a defense bill that didn't exempt two new 737 MAX models from a new regulatory requirement, as the plane maker had sought. **B1**

◆ **Indiana sued TikTok**, alleging that it is deceiving consumers about its content and data security, the latest in a series of moves by state officials to push back against the platform's influence on children and its ties to China. **A3**

◆ **Carvana hired** a financial adviser and its creditors banded together to protect themselves, according to people familiar with the matter. The firm's shares sank 43% on fears of a restructuring. **B1**

◆ **The S&P 500 fell** 0.2%, its fifth straight day of losses, while the Nasdaq shed 0.5%. The Dow added 1.58 points, or less than 0.1%. **B11**

◆ **Google plans** to combine the team working on the mapping service Waze with the group overseeing the company's Maps product. **B1**

◆ **FTX's new management** has hired forensic investigators from AlixPartners to help track billions of dollars that have gone missing. **B4**

◆ **The SEC signaled** plans to issue four proposals next week that aim to help small investors get better prices on their stock trades. **B10**

### *World-Wide*

◆ **China dropped** many of its quarantine and testing requirements and curtailed the power of local officials to shut entire city blocks, as the government accelerates plans to dismantle zero-Covid controls in the wake of nationwide protests. **A1**

◆ **Chinese exports fell** at the steepest pace in more than two years in November. **A12**

◆ **German authorities said** they had dismantled a suspected terror cell on suspicion of planning to overthrow the government, rekindling concerns in the country about the risks posed by domestic terrorists. **A1**

◆ **The Supreme Court** considered stripping state courts of the power to review partisan gerrymanders of congressional districts, examining an argument that is sometimes called the independent state legislature theory. **A4**

◆ **A search of** a Florida storage facility conducted on behalf of lawyers for Trump turned up two additional documents with classified markings, people familiar with the operation said. **A6**

◆ **Russia took steps** to bolster its defenses after a string of strikes deep within its borders that it blamed on Kyiv, while Moscow's forces launched drones and missiles at southern Ukraine. **A11**

◆ **Democrats and** Republicans are running out of time to reach a deal funding the government for the full fiscal year, as negotiators remained at loggerheads over the level of nondefense spending. **A6**

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## Peru's President Ousted After Move to Dissolve Congress

GUADALUPE PARDO/ASSOCIATED PRESS

**BACKLASH: Lawmakers celebrated in Lima, Peru, after voting to remove President Pedro Castillo from office Wednesday, shortly after he plunged the country into turmoil by announcing he would dissolve the legislature to avoid impeachment. A10**

# Apple Beefs Up User Security, Risking Law Enforcement Ire

*By Robert McMillan, Joanna Stern and Dustin Volz*

Apple Inc. is planning to significantly expand its data-encryption practices, a step that is likely to create tensions with law enforcement and governments around the world as the company continues to build new privacy protections for millions of iPhone users.

The expanded end-to-end encryption system, an optional feature called Advanced Data Protection, would keep most data secure that is stored in iCloud, an Apple service used by many of its users to store photos, back up their iPhones or save specific device data such as Notes and Messages. The data would be protected in the event that Apple is hacked, and it also wouldn't be accessible to law enforcement, even with a warrant.

While Apple has drawn attention in the past for being unable to help agencies such as the Federal Bureau of Investigation access data on its encrypted iPhones, it has been able to provide much of the data stored in iCloud backups upon a valid legal request. Last year, it responded to thousands of such requests in the U.S., according to the company.

With these new security enhancements, Apple would no longer have the technical ability to comply with certain law-enforcement requests such as for iCloud backups—which could include iMessage chat logs and attachments and have been used in many investigations.

The company said the security enhancements, which were announced Wednesday, are designed to protect Apple customers from the most sophisticated attackers.

"As customers have put more and more of their personal information of their lives into their devices, these have become more and more the subject of attacks by advanced actors," Craig Federighi, Apple's senior vice president of software engineering, said in an interview.

Some of these actors are going to great lengths to get their hands on the private information of people they have tar-

*Please turn to page A9*

# Beijing Abruptly Relaxes Covid-19 Measures

### End to many testing, lockdown rules comes in response to protests and economic damage

By Selina Cheng

HONG KONG—China ended many of its quarantine and testing requirements and curtailed the power of local officials to shut entire city blocks, as the government accelerates plans to dismantle zero-Covid controls in the wake of nationwide protests.

The speed of Beijing's retreat from its pandemic regime suggests leaders are more concerned about the damage those controls have caused to China's economy than the risk of worsening Covid infections that surged to a record in November. Trade data released before the eased Covid measures were announced on Wednesday showed Chinese exports fell at the steepest pace in more than two years in November, adding to weakening factory activity and a sluggish recovery in the property sector.

Markets seemed to greet China's policy shift with apprehension. Shares in Hong Kong and mainland China fell, suggesting that investors still see a messy path toward reopening, including the potential risks of soaring infections.

Chinese leader Xi Jinping and other senior officials have emphasized the need to maintain the zero-Covid policy and

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◆ Chinese exports decline at a steep pace ........ A12
◆ James Mackintosh: Reopening risks repeat of woes ........ B10


## Ex-Theranos President Sentenced

JASON HENRY FOR THE WALL STREET JOURNAL

**Ramesh 'Sunny' Balwani, former business partner and ex-boyfriend of Theranos founder Elizabeth Holmes, was sentenced to nearly 13 years in prison for fraud. B1**

# Tensions Built at Salesforce Before Leadership Shuffle

*By Emily Glazer, Aaron Tilley and Lauren Thomas*

Tensions had been growing between Salesforce Inc.'s co-chief executives, Marc Benioff and Bret Taylor, over their responsibilities and how the business was run for months before the business-software provider said last week that Mr. Taylor would exit from the role, people familiar with the executives said.

Mr. Benioff, who is also co-founder, became frustrated about how Mr. Taylor was spending his time, the people said. Among his concerns was whether Mr. Taylor were spending too much time in a new role as Twitter Inc.'s chairman, too much time with other CEOs and customers and not enough time on Salesforce product and engineering, the people said.

While the two had worked well together, cracks started forming in recent months that created friction between the men, the people familiar with the matter said.

Ahead of Salesforce's announcement that Mr. Taylor would exit, there was some discussion about trying to work things out and arranging for Mr. Taylor to stay for another year or so, but that didn't pan out, some of the people said.

The growing strains ultimately resulted in Salesforce's announcement last week that Mr. Taylor would vacate the co-CEO role on Jan. 31, with Mr. Benioff becoming the sole leader again and continuing to serve as the company's chairman. Mr. Taylor, 42 years old, has shared the top role with Mr. Benioff for about a year. His planned departure marks

*Please turn to page A6*

## *Cracking the Case: Fabergé Or Fauxbergé?*

* * *

### Justice Department in egg debate

By Stu Woo And Aruna Viswanatha

When a U.S. Justice Department official said in July the agency might have seized a Fabergé egg on a Russian yacht, the world's Fabergé experts had one reaction:

We'll believe it when we see it.

Only 45 of the jeweled Easter eggs, each worth millions of dollars, are believed to exist. Peter Carl Fabergé crafted the ovals, which often conceal yet another exquisite treasure inside, for Russian royalty.

The whereabouts of 43 are known. The odds of one of the missing two showing up on

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# Housing Market Stumps Forecasters

### Demand has seized up, supply is low, prices are down and no one agrees what's next

By Nicole Friedman And Nick Timiraos

Home sales have plunged. Buyers, facing the fastest-rising mortgage rates in decades, are scrapping their plans. And forecasters have rarely disagreed so much over where the market goes next.

By many measures, the housing market entered a sharp slump this summer after the Federal Reserve abruptly ended a real-estate boom fueled by the pandemic and record-low borrowing rates.

Mortgage rates climbed above 7% to 20-year highs in October and November before ticking lower in recent weeks. Existing-home sales have dropped for nine straight months through October, the longest streak since the National Association of Realtors began tracking this data in 1999.

It is typical for rising interest rates to cool the housing market. But the speed of this year's mortgage-rate increase has created a sense of whiplash among buyers and sellers, and that makes it difficult to predict how long the housing slump will last and how bad it will get.

Contradictory signals abound. Demand has tumbled, but the supply of homes is still low. Prices have fallen but are well above their pre-pandemic levels. Interest rates are sky-high compared with a year ago, but below where

*Please turn to page A14*

# German Raids Foil Alleged Terror Plot For Rightist Coup

By Bojan Pancevski

German authorities said they had dismantled a suspected terror cell on suspicion of planning to overthrow the government, rekindling concerns in the country about the risks posed by domestic terrorists.

Twenty-five people who were partly inspired by the QAnon conspiracy theory were arrested in the early hours of Wednesday, 22 of whom are suspected of conspiring to foment a coup, the federal prosecutor said. Their alleged plans included an armed storming of the federal parliament. The other three, including a Russian citizen living in Germany, are suspected of supporting the group, the prosecutor said.

More than 3,000 police officers including special forces conducted raids at 150 properties across Germany, Italy and Austria, in one of the largest operations of its kind in recent history, officials said.

"This organization has, according to our knowledge, set the goal of using violence and military means to overthrow the existing liberal democratic order in Germany," federal prosecutor Peter Frank said Wednesday. Its members believed Germany was governed by a so-called deep state and would soon be freed by a secret society of officials and military officers from the U.S., Russia and elsewhere, he said.

After years focused on countering the threat posed by Islamist terrorists, German authorities have widened their focus to far-right militants following a spate of attacks. These included the 2019 kill-

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# U.S. NEWS

CAPITAL ACCOUNT | By Greg Ip

## Old Habits Complicate a Deal on Chips, EVs

The U.S. and its allies agree they need to reduce their dependence on China. They also agree none can do so alone: No country is big enough to sustain an entire supply chain. At a meeting this week the U.S. and the European Union pledged "coordinated action to foster supply chain diversification (and) build resilience to economic coercion."

Behind this rhetorical camaraderie, though, old habits of protectionism and parochialism are reappearing. First, South Korea, Japan and the EU complain that the electric-vehicle subsidies in the Inflation Reduction Act, which President Biden signed into law in August, discriminate against their manufacturers and suck investment from them. Second, those same allies have rebuffed U.S. calls to join its restrictions on the export of sensitive semiconductor technology to China.

There's a grand bargain to be had here: The U.S. makes its allies eligible for its EV subsidies and those allies join its semiconductor controls. Such an accommodation would entail almost no economic cost to the U.S. or its allies—and potentially large long-term gains.

The EV-subsidy flap originates in the divergent impulses in Mr. Biden's agenda. He wants to speed up the transition to renewable energy, reshore American jobs and beef up cooperation to counter China. Thus, the IRA extended subsidies of up to $7,500 per electric vehicle provided it's assembled in North America and the minerals in its battery come from the U.S. or countries with which the U.S. has a free-trade agreement.

Japan, South Korea and Europe fear their own EV industries will suffer as sales and investment are diverted to the U.S. The "United States economy will receive a market-distorting boost, tilting the global level playing field and turning a common global objective—fighting climate change—into a zero-sum game," the EU's executive arm, the European Commission, complained.

KAMIL KRZACZYNSKI/REUTERS

**An employee worked on an assembly line at Rivian's electric-vehicle factory in Normal, Ill., in April.**

This is a bit rich; Europe is no slouch when it comes to market-distorting taxes and subsidies. France, Italy, Spain, Britain and the EC unveiled "digital services taxes" designed to hit American but not European tech companies; the taxes are suspended pending implementation of a broader international tax agreement. Last year, the EC announced subsidies to its own battery alliance. "By establishing a complete, decarbonised and digital battery value chain in Europe, we can give our industry a competitive edge," commissioner Thierry Breton boasted.

Nonetheless, the allies have a point: Why is the Biden administration's signature industrial policy treating them the same as China? As the world's second-largest vehicle market, the U.S. was bound to get plenty of foreign EV investment without the IRA.

The Treasury Department could use its administrative discretion to phase in the IRA's provisions or define content to allow more of these manufacturers' products to qualify. It could also interpret "free-trade agreement" to include not just formal bilateral treaties but broader pacts such as the WTO Government Procurement Agreement or the Minerals Security Partnership, both of which include Japan, South Korea and the European Union but not mainland China or Russia.

If the U.S. bends to its allies on electric vehicles, its allies should bend to the U.S. on semiconductors. Western companies now dominate the design and fabrication of advanced chips, which are critical to economic and military prowess. Alarmed at China's progress at breaking into that supply chain, the Biden administration in October announced sweeping restrictions on U.S. companies supplying it with semiconductor technology.

But this means U.S. companies could lose sales to companies unhindered by controls. For instance, two of the largest suppliers of semiconductor equipment are Japan's Tokyo Electron Ltd. and the Netherlands' ASML Holding NV. Neither Japan nor the Netherlands has so far agreed to adopt similar export controls to the U.S. They don't like being pushed around and have relatively more to lose than the U.S., not just in exports, but in potential retaliation by China.

Yet the actual economic costs of cutting off China are small. If controls succeed, China will account for less chip fabrication in the future. But it's the total worldwide demand for chips, not where they are made, that drives the demand for ASML's tools, CEO Peter Wennink said last year.

Meanwhile, business as usual entails its own costs. China's long-term goal is self sufficiency in all advanced technology, including semiconductors. It does business with Western companies until its own national champions can displace them first in China and then abroad. It has already followed the script in high-speed rail, power generation and telecom gear. If China has its way, the market share that South Korean, Japanese and European chip companies are trying to preserve will vanish in a few decades.

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## CORRECTIONS & AMPLIFICATIONS

**In some editions** Wednesday, the first name of Sen. Lindsey Graham (R., S.C.) was misspelled as Lindsay in a Page One article about Georgia's runoff election.

**A photo** with Wednesday's U.S. Watch showed archaeologists in Daytona Beach Shores, Fla., studying what appeared to be a wooden ship dating from the 1800s. The caption omitted the location of the photo.

**Matthew Stadelman**, chief investment officer of Diamond Hill Capital Management, believes the signal-to-noise ratio of data driving market moves is much lower than normal. A Business & Finance article on Wednesday about Tuesday's market activity quoted Mr. Stadelman as saying "the signal-to-noise ratio is much higher than normal," but after publication he said that he misspoke and meant "lower."

**Cristiano Ronaldo** scored a goal at the Qatar World Cup against Ghana and then tried to claim another goal against Uruguay, only for replays to show that the ball didn't actually graze his hair. A Sports article on Wednesday about Ronaldo incorrectly said he tried to claim a goal against Serbia.

Readers can alert The Wall Street Journal to any errors in news articles by emailing **wsjcontact@wsj.com** or by calling 888-410-2667.

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U.S. NEWS

## Anniversary of Attack on Pearl Harbor Commemorated

AUDREY MCAVOY/ASSOCIATED PRESS

**LIVING HISTORY:** Pearl Harbor survivors, including a handful of centenarians, and other military veterans gathered in Honolulu to mark the 81st anniversary Wednesday of Japan's bombing of the U.S. naval base, which launched America into World War II.

# Indiana Sues TikTok, Saying It Aims Adult Content at Teens

Indiana filed a pair of lawsuits against TikTok on Wednesday, alleging the platform is deceiving consumers about its content and data security, the latest in a growing series of moves by state officials to push back against the platform's influence on children and its connections to China.

*By Stu Woo, Erin Mulvaney and Ben Kesling*

The state said its lawsuits were the first of their kind against the popular app and its owner, Beijing-based **ByteDance** Ltd. In one of the complaints, Indiana alleges TikTok's algorithm is designed to addict young users and promotes harmful content that isn't appropriate for them. The suit cites studies and reports linking heavy use of the platform to mental disorders among teenagers, including eating disorders and depression.

"TikTok is actively exposing our children to drug use, alcohol abuse, profanity and sexually explicit material at a young age," said Indiana Attorney General Todd Rokita, a Republican. "TikTok is deceiving Indiana parents."

The second suit alleges China has the ability to use TikTok's data to spy on, blackmail and coerce users to serve the country's national security and economic interests. Both lawsuits seek changes to TikTok's practices, as well civil penalties for each alleged violation.

Also Wednesday, Republican Texas Gov. Greg Abbott banned the use of TikTok on government-issued devices, citing concerns that the platform could assist China in the surveillance of Americans and other intelligence work. Other states have begun to make similar moves in recent weeks.

TikTok declined to comment on the litigation but said "the safety, privacy and security of our community is our top priority. We build youth well-being into our policies, limit features by age, empower parents with tools and resources, and continue to invest in new ways to enjoy content based on age-appropriateness or family comfort. We are also confident that we're on a path in our negotiations with the U.S. Government to fully satisfy all reasonable U.S. national security concerns."

In regard to state bans, it said, "we believe the concerns driving these decisions are largely fueled by misinformation about our company."

Both Indiana lawsuits alleged TikTok is violating the state's consumer-protection laws by deceiving the public about its operations. In the complaint focused on children, the state alleged the app is misrepresenting that it is appropriate for users ages 12 and older. For example, to have a 12-plus rating on Apple's App Store, TikTok must represent that references to mature themes, alcohol, drugs and sexual content are "infrequent/mild," according to the lawsuit.

In fact, such material is abundantly available, from videos about hallucinogenic drugs and how to make alcohol taste like candy, to clips about strippers and sexual kinks, including bondage and rape fantasies, the state alleges.

**The lawsuits come as several states are banning the app on government devices.**

Last week, South Dakota Gov. Kristi Noem, a Republican, issued an executive order banning TikTok from state agencies over national security concerns. The state tourism department has since deleted its TikTok account, which had 60,000 followers. South Dakota's public broadcaster did the same. The state's six public universities are evaluating next steps later this week.

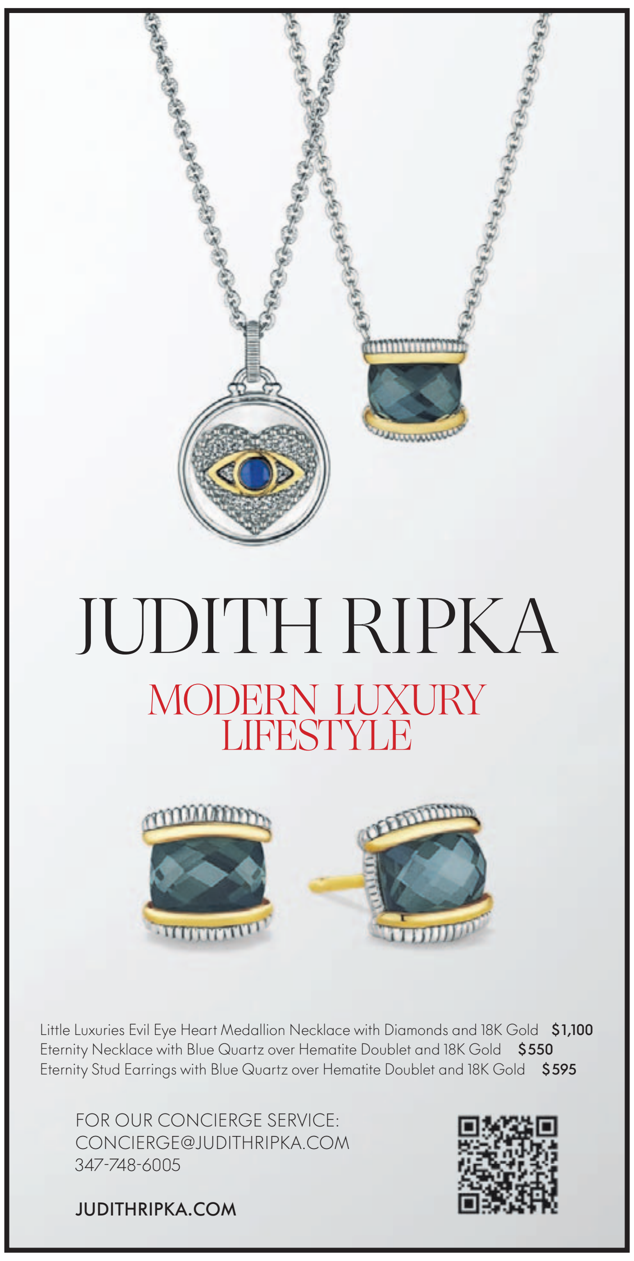
South Dakota was the second state to take such action. Nebraska did so in 2020.

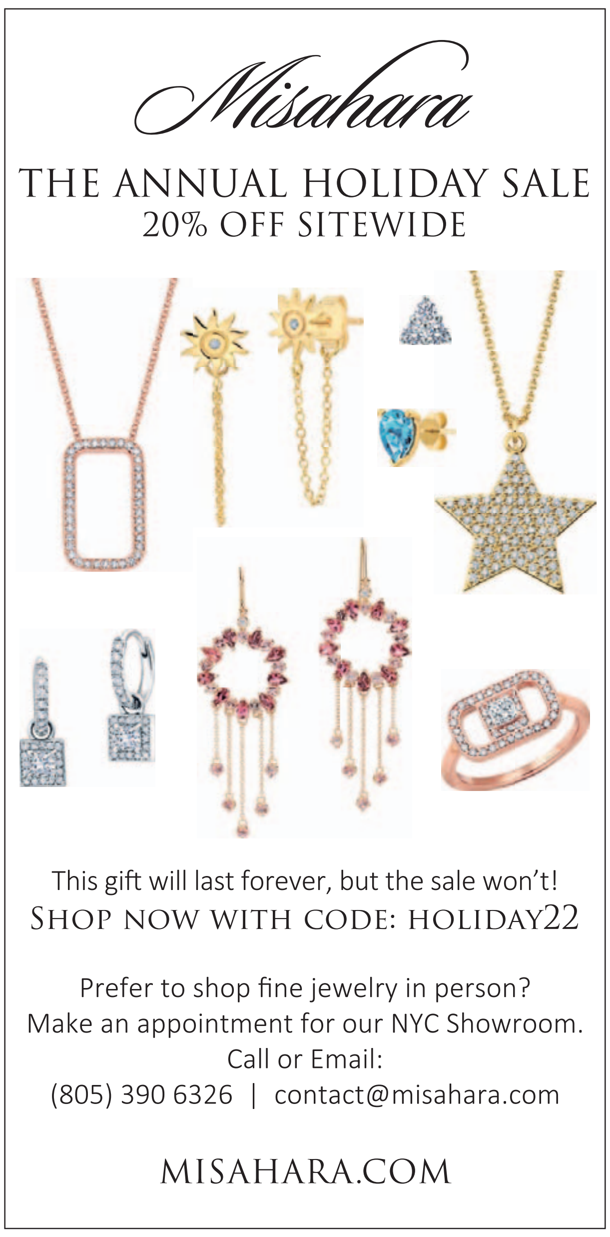
On Monday, South Carolina Republican Gov. Henry McMaster said he requested that the state's department of administration remove TikTok from government devices and block the site. The same day, lawmakers in Arkansas filed legislation for the coming 2023 session that would ban access to TikTok from state-owned or state-leased devices.

Maryland Gov. Larry Hogan, also a Republican, issued Tuesday what he called an emergency cybersecurity directive to prohibit the use of certain Chinese—and Russian—developed technology, including TikTok, in the state's executive branch.

In South Dakota, the ban has sown confusion and some consternation. Some state employees say it is unclear if they can run state-affiliated TikTok accounts from personal devices.

The order bans the use of TikTok on "state-owned or state-leased equipment," specifically prohibiting the app from being downloaded on such devices. It is less clear if the ban includes being able to access TikTok on personal phones through internet providers used in public spaces such as state-funded universities.



# Justices Weigh Case On Election Maps

North Carolina House Speaker Tim Moore spoke outside the Supreme Court building on Wednesday.

ANDREW HARNIK/ASSOCIATED PRESS

## North Carolina legislators say state courts shouldn't be able to review districts

By Jess Bravin

WASHINGTON—The Supreme Court on Wednesday considered stripping state courts of the power to review partisan gerrymanders of congressional districts, examining the argument that the Constitution gives state legislatures an authority to draw maps that only Congress itself can challenge.

The case came from North Carolina, where the state Supreme Court applied free-elections and equal-protection provisions of the state constitution to invalidate a congressional map the Republican-controlled legislature drew in the expectation of producing GOP victories in 10 of the state's 14 districts.

The court-approved map used instead for November's election resulted in seven seats apiece for Democrats and Republicans, roughly mirroring the state's partisan makeup.

On Tuesday, David Thompson, representing the speaker of the North Carolina House and other Republican leaders, cited the federal constitutional provision that assigns state legislatures responsibility for setting "the Times, Places and Manner of holding Elections for Senators and Representatives." That language, he argued, eliminates any requirement to comply with provisions of state constitutions regarding elections that state courts enforce.

Liberal justices rejected that argument, sometimes called the independent state legislature theory, saying the legislature's own power is defined by the state constitution that created it.

"The authority comes from the state constitution, doesn't it?" said Justice Ketanji Brown Jackson. "The state constitution tells us what the legislature is, and what it can do, and who gets on it."

Justice Elena Kagan said preventing court review of political maps would eliminate checks and balances against partisan self-dealing at "a time they are needed most."

Mr. Thompson said the framers did provide a check and balance—the clause allowing Congress to override state legislatures regarding rules for federal elections. Lawyers defending the state court decision said that in giving Congress power to override state legislatures, the framers intended to add an additional check beyond that of state courts on the redistricting power, not to supplant the normal role of state judges.

Conservative justices focused on another risk, that of state courts usurping the legislature's role in drawing House maps.

Justice Samuel Alito saw such a risk in hypotheticals such as a state constitution provision saying that the state supreme court shall draw the districts, or itself sit as a "council of revision to determine whether the maps are fair."

Chief Justice John Roberts said the provisions the North Carolina court used to invalidate the legislature's map were vague and offered few objective standards.

The Supreme Court in March declined to reimpose the legislature's map before the November election, over the objections of Justices Alito, Clarence Thomas and Neil Gorsuch.

But the court did agree to hear arguments over the independent state legislature theory, which gained attention in conservative circles after the decision resolving the disputed 2000 presidential election, Bush v. Gore. In a concurring opinion, the late Chief Justice William Rehnquist suggested that similar constitutional language giving state legislatures power to direct the manner of selection for presidential electors limited the role of state courts in reviewing election challenges.

The Arizona Legislature, seeking to regain redistricting power that a voter initiative assigned to an independent commission, raised the argument in a 2015 Supreme Court case. By a 5-4 vote the justices upheld the commission in 2016, reasoning that the voters could bypass the statehouse and legislate directly to combat gerrymandering.

But in 2019, after decades of considering claims that the U.S. Constitution barred partisan gerrymanders, the Supreme Court found by a 5-4 vote that there was no remedy for such political self-dealing.

"Our conclusion does not condone excessive partisan gerrymandering," Chief Justice Roberts wrote for the court. Among other methods for combating the practice, "provisions in state statutes and state constitutions can provide standards and guidance for state courts to apply," he wrote.

State courts took up that invitation, not only in North Carolina but also in Democratic-led states such as Maryland and New York, where state courts applied state constitutional provisions to throw out maps found to unfairly favor Democratic House candidates.

If the Supreme Court ultimately holds that only state legislatures can draw congressional maps, it could mean the resumption of congressional gerrymanders not only in those states but also in others where voters established nonpartisan commissions to draw House maps.

Adoption of the independent legislature theory could also open the door to expanding lawmakers' power over the selection of presidential electors.

A decision in the case, Moore v. Harper, is expected before July.

# Warnock Win Clears Some Paths for Senate Democrats

By Natalie Andrews And Lindsay Wise

'Fifty-one, a slim majority, that is great!' Senate Majority Leader Chuck Schumer said Wednesday.

BILL CLARK/CQ ROLL CALL/ZUMA PRESS

WASHINGTON—Senate Democrats celebrated their win in Georgia giving them 51 seats next year, a result that enhances their power by allowing them to more easily advance President Biden's nominees while also providing slightly more flexibility on legislation.

Sen. Raphael Warnock's win in a runoff election over GOP challenger Herschel Walker comes after two years in which Vice President Kamala Harris provided a tiebreaking vote in the 50-50 Senate.

"Fifty-one, a slim majority, that is great!" Senate Majority Leader Chuck Schumer (D., N.Y.) said with a wide smile at a press conference Wednesday, holding up five fingers on one hand and one finger on the other. "It's big, it's significant, we can breathe a sigh of relief."

Since early 2021, the two parties have been operating under a power-sharing agreement with evenly divided committees, which has prevented Democrats from issuing subpoenas to witnesses without GOP support. When nominees have tied in a committee vote, Democrats have been forced to hold an extra procedural vote to finalize their nomination. The Warnock victory will give Democrats a narrow majority on each panel.

"It'll be easier for Democrats to move forward with some of their nominees, particularly in the judiciary, and that makes it more difficult for us," said Sen. Mitt Romney (R., Utah).

Mr. Biden has had about 90 judicial nominees confirmed by the Senate so far, as the party has given priority to getting new judges on the bench. Former President Donald Trump, a Republican, placed judges in roughly 230 positions during his four years in office, the most in a single term since the Jimmy Carter administration.

A 51st Democratic senator also gives the Democrats slightly more flexibility on crafting legislation. Typically, bills need 60 votes to pass in the Senate, requiring bipartisanship, but some measures tied to the budget can pass with a simple majority. The added seat also provides insurance against possible resignations or deaths.

Democratic lawmakers have managed to maneuver some partisan measures through the evenly divided Senate, but passing legislation required all Democrats to agree if Republicans were united in opposition. That gave effective veto power to centrist Sens. Joe Manchin of West Virginia and Kyrsten Sinema of Arizona, who forced the party to make major changes and cuts to its tax, healthcare and climate law. Next year, any individual senator will have less leverage over the agenda.

Asked about whether the 51st seat would lessen the influence of Mr. Manchin and Ms. Sinema, Mr. Schumer said the two lawmakers "don't always agree with us on certain issues, but they're tremendous contributors to our caucus and we'll continue to work with them."

Mr. Schumer also said he planned to reach out to Republicans, but he declined to lay out plans for the next Congress or what proposals could get GOP support.

Republicans, bruised after a midterm election where they performed worse than expected, continued to point fingers, with Mr. Walker's loss reigniting complaints about party leadership and the influence of Mr. Trump. Last month, Sen. Mitch McConnell (R., Ky.) was re-elected as minority leader, fending off a challenge from Sen. Rick Scott (R., Fla.), after the "red wave" many conservatives had hoped for on Election Day failed to materialize.

"Not only did we fail to win a majority, we lost a seat. And the Senate GOP response is going to be to make no changes?" tweeted Sen. Marco Rubio (R., Fla.).

Some Republicans have blamed what they saw as weaknesses among GOP challengers in tough Senate elections, undercutting perceived GOP strengths on issues such as the economy and crime, as well as Mr. Biden's low approval ratings.

"I think we need to learn from our mistakes, which are: if you don't broaden the appeal of a candidate who wins the primary in the general election, you're unlikely to win," said Sen. John Cornyn (R., Texas).

# Vote Cements Georgia's Battleground Status

By Aaron Zitner

Sen. Warnock brought his party its fourth statewide win since 2020.

CARLOS BARRIA/REUTERS

Sen. Raphael Warnock's victory in Georgia's runoff Senate election on Tuesday cemented the state's status as one of the few battlegrounds of the 2024 presidential election and underscored the risk the Republican Party runs by embracing former President Donald Trump and his endorsed candidates.

In defeating Republican Herschel Walker, by almost 3 percentage points in nearly complete results, Mr. Warnock brought his party its fourth statewide win since 2020, when President Biden became the first Democrat in 28 years to carry Georgia in a presidential election. The next year, Mr. Warnock was one of two Democrats who won runoff elections for the Senate, which gave him a partial term.

While Mr. Warnock's win on Tuesday gives Democrats their 51st seat in the next Senate, it comes just after Republicans swept every other statewide office in November, with Gov. Brian Kemp, a Trump antagonist, winning re-election by a substantial 7.5 percentage points.

Those conflicting currents underscore Georgia's status as one of the nation's new tossup states. Democrats are now looking to further heighten Georgia's importance by moving it earlier on the party's presidential nomination calendar.

"As a Democrat, you're tiptoeing your way through the state to get to 50% plus 1. But it is moving in a Democratic direction," said Jim Kessler, executive vice president for policy at Third Way, a centrist Democratic think tank.

Some Republicans emphasized that their party this year had once again won all the top state-level offices. "Georgia is a red state," said Dan McLagan, a GOP consultant who worked for one of Mr. Walker's rivals in the party primary. "I think the GOP floor here is 50%. I just think Herschel was just such a bad candidate that he fell down the stairs into the sub basement."

Georgia was the last of several battleground states this cycle in which voters turned against Mr. Trump's picks for Senate or governor, including Arizona, Pennsylvania, New Hampshire and Michigan.

Though Republicans show signs recently of drawing more support from Latino and, to a lesser degree, Black voters, Mr. Trump accelerated a realignment of the nation's voting groups that drew more working-class, white voters to the GOP while making the party less hospitable to many minority voters, suburban voters and voters with college degrees. Those shifts helped put Georgia, where minority groups account for nearly half of state residents, in play, as well as Arizona, another former GOP stronghold that Mr. Biden won in 2020.

Many voters in Georgia's diverse suburbs rejected Mr. Trump, who was a candidate or endorsed and promoted his party's nominees, including Mr. Walker, in all four of the statewide elections that Democrats have won since 2020.

"Donald Trump in these metro counties is poison for the Republican Party," said Rusty Paul, a former chairman of the Georgia Republican Party and current mayor of Sandy Springs, a city close to Atlanta.

Georgia's growth and increasing diversity have helped turn urban suburbs into Democratic strongholds. That trend was confirmed on Tuesday by Mr. Warnock's big margins in racially and ethnically diverse Cobb and Gwinnett counties, the state's most populous other than Atlanta's main county. Mr. Warnock drew 59% of the vote or more in largely complete results in the two counties, larger shares than Mr. Biden drew in his narrow victory in 2020. A decade ago, both counties reliably voted Republican.

"Georgia is becoming more competitive with the demographic changes we have going on," Mr. Paul said. He added: "The trend line over the next 10 years—where is it going? As Georgia becomes less white, less rural and the close-in suburban areas continue to change, then it is tougher for Republicans."

"Georgia at least for the foreseeable future will be a battleground, just like Wisconsin and Michigan are," said Tony Fabrizio, a Republican pollster who works for a Trump-aligned super PAC.

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# States Are Set for Abortion Fights

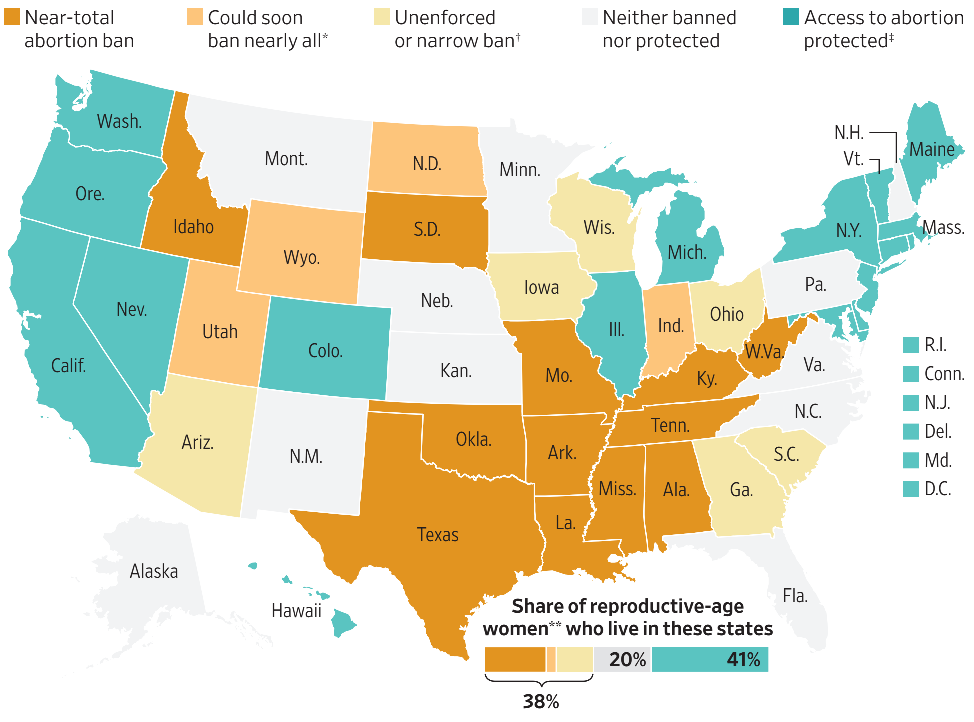
## After midterms, efforts to impose new restrictions hit legal and political obstacles

By Laura Kusisto

State legislatures across the country are preparing to convene for the first time since the U.S. Supreme Court ended federal constitutional protections for abortion, with Republicans facing questions about whether to adopt new restrictions after the party's tepid performance in the midterm elections.

More than 20 states were expected to ban many or most abortions following the Supreme Court's decision this summer in Dobbs v. Jackson Women's Health Organization. But in roughly half those places, efforts to impose new restrictions have hit legal and political obstacles. Now, lawmakers are grappling with how to respond to an electoral season that saw voters signal resistance to sweeping prohibitions on abortion, including in some conservative-leaning states.

Abortion access across the U.S. now depends on state laws, after the Supreme Court overturned the 1973 decision that established the constitutional right to an abortion.




*Trigger ban or near-total post-Dobbs ban temporarily blocked or not immediate †No trigger ban but has unenforced near-total pre-Dobbs ban or six-week ban (one in effect) ‡Michigan's protections go into effect later this year **Reproductive-age women are those 15 to 44 years old, according to the Census Bureau's American Community Survey five-year estimates for 2020, and calculated as a share of the total number of women in the age group in the 50 states plus Washington, D.C.
Note: Figures don't add up to 100% due to rounding.
Sources: Guttmacher Institute; staff reports

"We haven't really felt the full impact at the state level," said Elizabeth Nash, a state policy analyst at the Guttmacher Institute, which supports abortion rights.

Nationally, Republicans didn't perform as well as expected in the midterms, and political analysts say voter concern about abortion access was one reason why. Some GOP candidates lost to Democrats who made abortion a central issue in their campaigns. Abortion opponents were on the losing end of five state ballot initiatives in the midterms, as well as a proposed ballot measure in August to eliminate protections for abortion from the Kansas constitution.

Yet Republicans strengthened their position in some states, including North Carolina, Ohio and Florida, where abortion policy is being closely watched, buoyed in some circumstances by a socially conservative base that supports stronger restrictions.

"We have a lot of reason to be optimistic about our ability to advance protections for life at the state level after this election," said Stephen Billy, vice president of state affairs at Susan B. Anthony Pro-Life America, one of the country's largest antiabortion groups.

Voters didn't punish conservative politicians for new abortion restrictions but for their timidity in defending them, Mr. Billy said.

Florida has emerged as a major focus for antiabortion groups, who are pushing for a bill banning abortion after about six weeks of pregnancy. The state is an outlier in the Republican-dominated South in permitting abortion until 15 weeks of pregnancy.

Thus far, Florida Republican leaders have been hesitant to commit publicly to the details of new abortion legislation. That includes Gov. Ron DeSantis, who said after the Dobbs decision that he would "work to expand pro-life protections." But the governor, widely viewed as a potential 2024 presidential candidate, has given few specifics about what type of limits he would support.

Legislative leaders there say they are waiting for the Florida Supreme Court to rule on whether the 15-week ban violates the state's constitution.

The case is one of several in which state judges are poised to play a role. State supreme courts in South Carolina, North Dakota, Idaho and Kentucky also are expected to issue rulings that could help determine whether their state constitutions protect a right to abortion.

In North Carolina, Republicans fell just short in the midterms of a legislative supermajority that could override the Democratic governor's expected veto of any new abortion limits. House Speaker Tim Moore has said he is confident Republicans could join with a handful of Democrats to pass some new veto-proof abortion restrictions. The state, where the procedure is legal until about 20 weeks of pregnancy, has become a regional access point as most of its southern neighbors have banned many or most abortions.

"We staved off that supermajority by one vote but that really underscores how thinly abortion access is hanging on in North Carolina," said Jenny Black, president and chief executive of Planned Parenthood South Atlantic.

Nebraska, where abortion is currently legal up to 20 weeks of pregnancy, is expected to be another key battleground. Gov. Pete Ricketts, a Republican, said in August he wouldn't call a special session to pass a ban on most abortions after 12 weeks of pregnancy because there wasn't enough support in the Legislature. In a letter to Mr. Ricketts, 30 state senators said they would support the legislation—three short of the 33 needed to pass the law, according to the governor.

It is possible Republicans could get closer to that number next year.

In some states where Republicans dominate local politics, abortion opponents face challenging fights as divisions emerge within the party about how far to push.

Republicans in a number of states are also debating whether to soften some existing state restrictions in response to public pushback after these laws went into effect. Most abortion bans passed in recent years didn't include exceptions for rape and incest. Now prominent Republicans in states including Florida, Tennessee and Ohio are urging their party to add more robust exceptions for rape, incest and the life of the mother.

In Ohio, Republicans have indicated they don't expect to pass a proposed near-total abortion ban in this year's lame-duck session. Instead they have said they would focus on clarifying exceptions for medical emergencies in the existing six-week ban, which is currently blocked by the courts. Legislators could still take up a total ban next year, though Republican Gov. Mike DeWine has urged legislators not to pass anything that won't win support from a majority of Ohio voters.

*—Jennifer Calfas contributed to this article.*

# Trump Legal Team Finds Classified Papers

By Alex Leary

WASHINGTON—A search of a Florida storage facility conducted on behalf of lawyers for former President Donald Trump turned up two additional documents with classified markings, people familiar with the operation said.

The documents were found at a facility in West Palm Beach not far from Mr. Trump's Mar-a-Lago estate, where more than two-dozen boxes of records were retrieved earlier this year as part of a continuing criminal investigation by the Justice Department.

The two newly located documents were handed over to investigators, the people said. It couldn't be determined what the records were. A Justice Department spokesman declined to comment.

A spokesman for Mr. Trump, Steven Cheung, didn't comment on any discovered materials but said: "President Trump and his counsel continue to be cooperative and transparent, despite the unprecedented, illegal, and unwarranted attack against President Trump and his family by the weaponized Department of Justice."

In October, prosecutors pressed for the return of what they believed to be more government documents in the former president's possession and told Mr. Trump's lawyers they didn't believe Mr. Trump's team had located all of the government documents the former president took with him as he left office.

In particular, they expressed concern that Mr. Trump took documents on flights as he traveled from Mar-a-Lago to his other properties in New York and New Jersey.

The search, undertaken on behalf of Mr. Trump's legal team, didn't find any classified documents at the former president's other properties, the people said.

The Washington Post earlier reported about the discovery of documents in West Palm Beach. The facility had received material taken from the Trump White House and transported by the federal General Services Administration.

A spokesman for the GSA said that among other actions on behalf of the former president, a contractor in September 2021 transferred four pallets assembled by Mr. Trump's team from a leased space in Virginia to the Florida storage facility.

Prosecutors had sought to compel Mr. Trump to provide any remaining documents, the Journal previously reported, prompting his legal team to discuss a range of options. Those include hiring an outside firm to conduct a search and certify that no additional documents remain, and launching a legal challenge to the Justice Department's demand.

One Trump lawyer, Chris Kise, had earlier advocated for an outside firm to do such a search but he met initial resistance from other attorneys on the team, according to people familiar with the discussions.

*—Aruna Viswanatha and Sadie Gurman contributed to this article.*

# Salesforce Tensions Built

*Continued from Page One*

the second time in less than three years that Mr. Benioff has parted ways with someone installed as his co-CEO.

Mr. Taylor, an entrepreneur and founder earlier in his tech career, said when his planned departure was announced that he believed it was time "to return to my entrepreneurial roots particularly given the landscape and economy going through such shifts."

At the time, Mr. Benioff thanked Mr. Taylor for his Salesforce service and said he wasn't happy about the departure. "I know he wants to go create a third great company," Mr. Benioff said, saying he hoped Mr. Taylor would return to Salesforce.

The tech industry faces growing challenges in areas such as cloud-computing software that thrived during the pandemic.

Salesforce's corporate customers are becoming more conservative with the slowing global economy, leading to the slowest quarterly sales growth in the company's history.

MARLENA SLOSS/BLOOMBERG NEWS

**Marc Benioff, left, worried that Bret Taylor, right, was spending too much time in managing Twitter.**

In the company's most recently reported, October quarter, sales grew by 14% from the prior year, down from 27% growth in the same quarter a year earlier.

In recent months, Mr. Benioff has grown frustrated with the company's slowdown and has examined company execution issues in addition to the broader economic downturn, some of the people said.

The announcement wasn't long planned, said people familiar with the matter. Mr. Benioff will now give a solo keynote at an event Salesforce is hosting at the Javits Center in New York this week for employees and customers.

Information from mid-November about the summit and related events suggested the two co-CEOs would be leading them together, according to documents viewed by The Wall Street Journal.

Mr. Benioff, who co-founded Salesforce in 1999 and remains among its biggest shareholders, has tried to share leadership power at the company before. In 2018, Keith Block was promoted to co-CEO alongside Mr. Benioff after five years as president. He left 18 months later, saying he was moving on to the next chapter.

With Messrs. Benioff and Taylor, there lately was escalating confusion among some executives over whom they should report to, people familiar with the matter said.

Mr. Benioff recently engaged more directly with certain executives who report to Mr. Taylor, they said.

During the World Economic Forum in Davos, Switzerland, in May, people asked Mr. Taylor about his work with Twitter during some Salesforce events.

He and Mr. Benioff typically have shared the stage at most big events, often improvising and bantering to large crowds of employees, clients and other guests.

When it has come time to sit on panels with peers, government officials or celebrities, Mr. Benioff usually has the sole seat.

Mr. Taylor joined Salesforce in 2016 through its acquisition of software company Quip Inc., which Mr. Taylor co-founded and ran at the time. He had served as Salesforce's chief product officer and chief operating officer before being named co-CEO on Nov. 30 last year.

Salesforce elevated Mr. Taylor a day after he was named Twitter chairman, putting him in position to oversee two of Silicon Valley's most prominent companies.

His Twitter job put him at the center of one of tech's most contentious battles this year as Elon Musk agreed to take over the company in April, then tried to get out of the deal before eventually buying it in October.

Mr. Taylor's position as Twitter chairman ended as the $44 billion takeover by Mr. Musk closed.

Mr. Taylor was credited as the architect of Salesforce's $27.7 billion purchase of workplace-collaboration company Slack Technologies, Salesforce's biggest acquisition. Salesforce said this week that Stewart Butterfield, the CEO and co-founder of Slack, plans to leave the company next month.

Through his career, Mr. Taylor has been involved with some of the tech industry's most notable innovations—from Google Maps to Facebook's "like" button—and he founded companies that have sold for hundreds of millions of dollars.

*—Laura Cooper contributed to this article.*

# Time Runs Short for Accord on Spending

By Siobhan Hughes And Katy Stech Ferek

WASHINGTON—Democrats and Republicans are running out of time to reach a deal funding the government for the full fiscal year, as negotiators remained at loggerheads over the level of nondefense spending.

With a little more than a week until a partial government shutdown at 12:01 a.m. on Dec. 17, top negotiators said that they still hadn't agreed to a total amount of discretionary spending on military and nondefense programs. Republican leaders are now more openly talking about falling back on a temporary spending measure stretching into next year.

"Time is not on our side," said Sen. Roy Blunt (R., Mo.), a member of the Senate Republican leadership team. "There's a lot of interest in getting an omnibus bill, but we're going to run out of runway here pretty quick."

Lawmakers are prepared to pursue a short-term funding deal that keeps spending at current levels to buy more time for talks, but they face a deadline at the start of the year when the new Congress takes over and the House switches to Republican control.

The struggle to reach a spending deal comes as House lawmakers are set to pass a defense policy bill that clears military leaders to buy new weapons and increase pay for troops later this week. The National Defense Authorization Act bill, unveiled late Tuesday, would also rescind the requirement that members of the military be vaccinated against Covid-19, a move to secure Republican support. But it left out some items backed by Democrats, such as a measure related to marijuana and banks, as well as energy permitting.

At the heart of the spending fight is the amount of money to allocate to the nondefense portion of the annual budget. Both chambers have endorsed some $858 billion in military spending, a roughly 10% percent increase over the prior year. Republicans and Democrats disagree, however, over the amount of nondefense spending, with Democrats wanting a higher level and the two sides about $26 billion apart. Neither is showing signs of budging.

**Nondefense items are dividing the parties as a partial shutdown looms.**

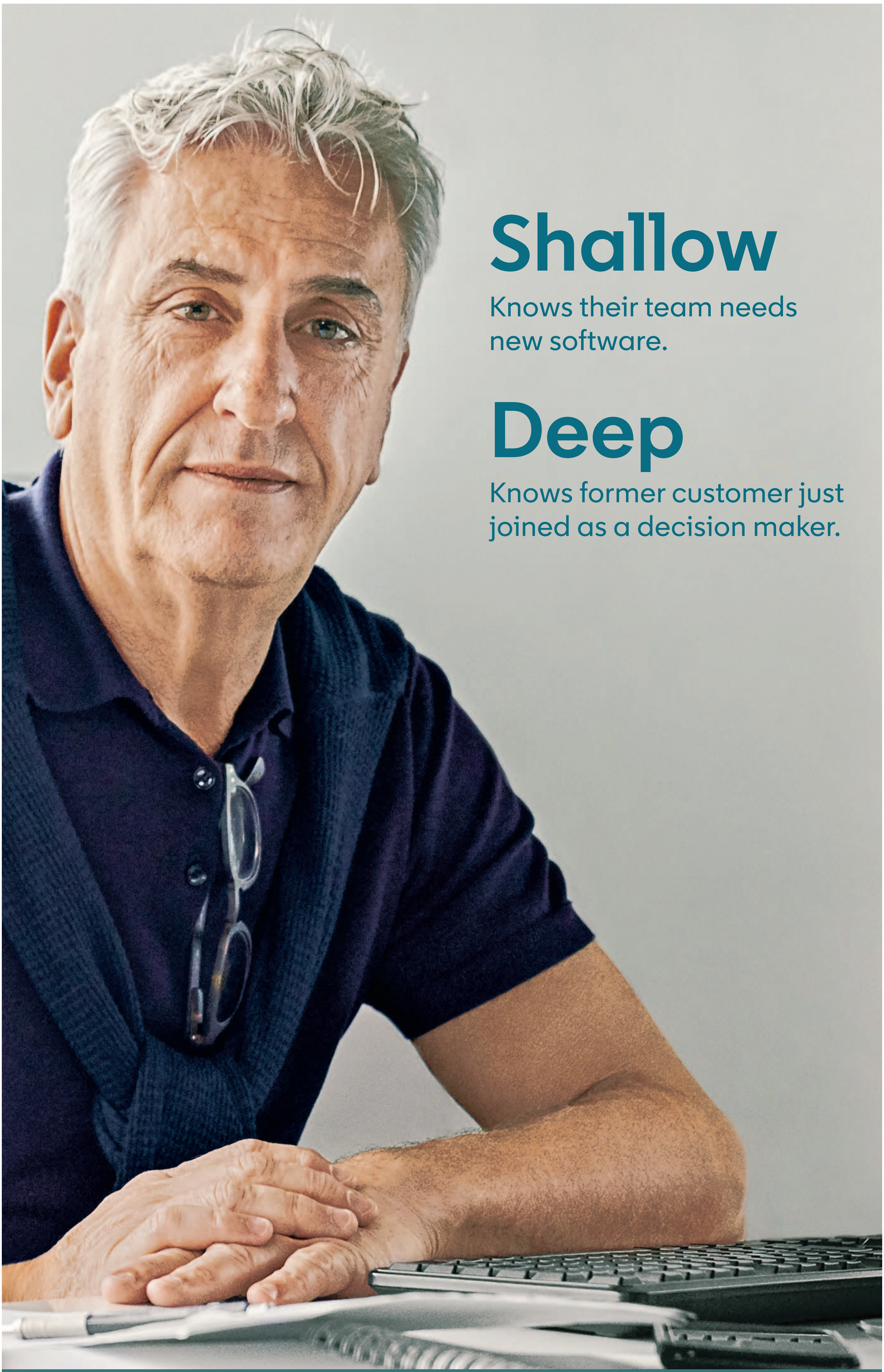
Adding uncertainty to the talks are the motivations of party leaders. Democrats and some Republicans want to strike a deal as soon as possible, anticipating that the thin GOP House majority next year could cause difficulties for negotiators and party leaders. Other Republicans are calling for spending decisions to be made next year when they have more leverage.

"I don't know how they get an omnibus now," House Minority Leader Kevin McCarthy (R., Calif.) said Tuesday night on Fox News. He has said he would prefer lawmakers pass a short-term spending bill, called a continuing resolution, that runs into 2023 and leave the longer-term spending decisions for the next Congress.

Mr. McCarthy is the front-runner to become the next speaker and has worked to shore up support among House Republicans, many of whom want to cut government spending.

Senate Minority Leader Mitch McConnell (R., Ky.), in tandem with Mr. McCarthy and the top Democratic leaders, met recently with President Biden to discuss the spending bill, among other topics.

Senate Majority Leader Chuck Schumer (D., N.Y.) said Tuesday that he and Mr. McConnell had agreed to work together to try to get a full-year spending bill completed. "Each side is going to have to give in order to send an omnibus to the president's desk and avert a pointless, painful government shutdown," he said.

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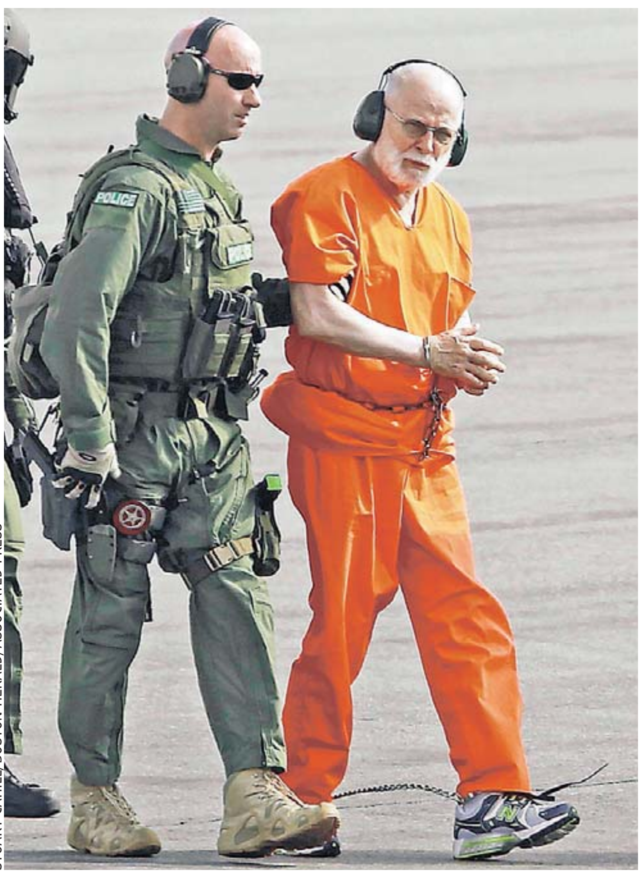
# Inmates Had Advance Word Of Bulger's Prison Transfer

BY SADIE GURMAN

WASHINGTON—Inmates at a West Virginia federal prison knew well in advance that convicted Boston mobster James "Whitey" Bulger was being transferred there and placed bets on how long it would be before the notorious FBI informant was killed, the Justice Department's inspector general wrote in a withering report released Wednesday.

Bulger, 89 years old and in failing health, was bludgeoned to death with a padlock less than 12 hours after arriving at the U.S. Penitentiary Hazelton in October 2018, the violent capstone to his own murderous career and to what the watchdog's report described as a series of management failures, flawed policies and bureaucratic ineptitude.

Federal Bureau of Prisons officials moved Bulger from a facility in Florida where he had lived for years following his 2013 conviction on a sprawling racketeering indictment that included involvement in 11 murders, as well as running a criminal enterprise of drug dealing, extortion, money laundering and gun running from the 1970s to the 1990s.



STUART CAHILL/BOSTON HERALD/ASSOCIATED PRESS

**James 'Whitey' Bulger in a file photo from 2011. The Justice Department's inspector general cited management and policy failures in his transfer to a federal prison in West Virginia, where he was killed shortly after his arrival in October 2018.**

Prisons officials had been pushing for months to move the wheelchair-using Bulger from a secure unit at U.S. Penitentiary Coleman II due to what they described as safety and discipline concerns.

"In our view, no BOP inmate's transfer, whether they are a notorious gangster or a nonviolent offender, should be handled like Bulger's transfer was handled in this instance," Inspector General Michael Horowitz wrote.

At least 100 prison employees were aware of the coming transfer and some of them spoke openly about it in the presence of inmates, at least one of whom predicted in an email to his mother that the crime boss would be killed because of his notoriety as a government informant.

Three men—Fotios "Freddy" Geas, 55, Paul J. DeCologero, 48, and Sean McKinnon, 36—were indicted in August, nearly four years after the killing, on charges of conspiracy to commit first-degree murder. Prosecutors alleged Messrs. Geas and DeCologero struck Bulger in the head multiple times, causing his death. All three have pleaded not guilty.

The killing added to a list of troubles facing the federal Bureau of Prisons, which in recent years has struggled with misconduct, staffing shortages and the coronavirus pandemic, among other problems. Attorney General Merrick Garland in July named Colette Peters, a former top corrections official in Oregon, to lead the beleaguered agency.

Ms. Peters on Wednesday said the agency agreed with the report and had already begun implementing many of its recommendations.

The Bureau of Prisons has "initiated several improvements to its medical transfer system including enhanced communication between employees involved in the process, multiple trainings for personnel, and technological advancements," the agency said.

Mr. Horowitz's investigation didn't find evidence of any federal criminal violations or that employees acted "with a malicious intent or an improper purpose."

Prisons officials had sought Bulger's transfer from Florida after he threatened a nurse there. To hasten the move, the inspector general's report said, staff repeatedly tried to play down his medical troubles to broaden the list of facilities where he could be placed.

The staff ultimately ignored guidance from health officials who said Bulger should remain in a facility where he could receive greater care and failed to mention Bulger's numerous heart-health incidents when making the final transfer request, which the agency's medical director approved.

Officials also neglected to subject Bulger to an intelligence assessment that would have determined if he should be separated from certain organized-crime figures within the prison, despite his well-documented leadership of South Boston's Winter Hill Gang. Instead, employees at Hazelton told the inspector general they viewed Bulger as "non-gang affiliated," and a manager volunteered to take Bulger into his unit despite the presence of at least one other former organized crime associate in that portion of the prison.

Bulger's violent demise added a new layer of intrigue to his long life of crime and complicated relationship with the federal government. Prosecutors said Bulger acted as a secret FBI informant and fled Boston in late 1994 after being tipped off about the pending indictment against him by his former FBI handler.

Bulger was on the lam for 16 years before his 2011 arrest, when he and his girlfriend were found living in a rent-controlled Santa Monica, Calif., apartment with $822,000 hidden in the walls.

# Alleged Russian Agent Charged With Fraud

BY JAMES FANELLI

An accused Russian agent was charged with federal bank fraud and money laundering for trying to evade U.S. sanctions imposed on him over his alleged interference in the 2020 presidential race.

An indictment unsealed Wednesday in a New York federal court accuses Andriy Derkach, a Ukrainian lawmaker, of using an intermediary to hide his ownership of real estate in Beverly Hills, Calif., and conspiring to obscure his identity in banking transactions.

The Treasury Department sanctioned him in September 2020, alleging he had for years maintained close ties to Russian intelligence services and had tried to influence U.S. elections, including by promoting theories about Joe Biden's involvement in his son Hunter Biden's business dealings in Ukraine.

Mr. Derkach is charged with conspiracy to violate the International Emergency Economic Powers Act, conspiring to launder money, conspiring to commit bank fraud and other criminal counts.

"The conduct of this Kremlin asset, who was sanctioned for trying to poison our democracy, has shown he is ready, willing, and capable of exploiting our banking system in order to advance his illicit goals," said Brooklyn U.S. Attorney Breon Peace, whose office brought the charges.

Mr. Derkach, who has served in the Ukrainian Parliament and is a former member of a pro-Russian political party in Ukraine, remains at large, according to prosecutors. He couldn't be reached to comment. He has previously denied the allegations that led to the 2020 sanctions.

A spokesman for the Russian Embassy said at the time of the sanctions that the allegations were being handed down by the U.S. government as an attempt "to keep their favorite topic afloat" and "on purpose in the context of the coming U.S. elections in November."

In 2013, Mr. Derkach and his wife transferred nearly $4 million from overseas accounts in the names of shell companies to a bank account controlled by an intermediary to purchase two Beverly Hills condominiums, according to the indictment. The intermediary isn't identified in the indictment.

After the U.S. sanctions were imposed, Mr. Derkach continued to direct money in accounts controlled by the intermediary to pay maintenance fees and utilities on the two homes. The Beverly Hills properties are now the subject of a civil forfeiture action.

GLEB GARANICH/REUTERS

**Andriy Derkach, shown in 2019, is accused of trying to evade U.S. sanctions from his alleged interference in the 2020 presidential race.**

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# U.S. WATCH

CONGRESS

## Ocasio-Cortez Cited In Ethics Complaint

The House Ethics Committee disclosed it is investigating a complaint regarding Rep. Alexandria Ocasio-Cortez (D., N.Y.), but it provided no details about the case.

In a brief statement, the panel said that the matter has been extended into the new year, when the new Congress begins, and it will announce a course of action then. The committee added that the extension to the proceedings doesn't indicate it believes any ethics violation has occurred.

Ms. Ocasio-Cortez's office didn't offer any details on the complaint. Spokeswoman Lauren Hitt said the office was confident that the matter will be dismissed and said Ms. Ocasio-Cortez "has always taken ethics incredibly seriously, refusing any donations from lobbyists, corporations, or other special interests."

*—Natalie Andrews*

MICHIGAN

## Victim's Family Sues City, Former Officer

The family of Patrick Lyoya, a Black man who was killed during a traffic stop this spring, is suing the city of Grand Rapids, Mich., and the former police officer who shot him in the back of the head.

The civil lawsuit, filed Wednesday in the U.S. District Court for the Western District of Michigan, alleges former Grand Rapids police officer Christopher Schurr violated federal law and Mr. Lyoya's constitutional rights through use of excessive force.

The suit, which seeks compensatory and punitive damages, also alleges the city violated Mr. Lyoya's constitutional rights and is responsible for his death through its policies.

Mr. Schurr illegally stopped Mr. Lyoya, who was 26 years old, before the altercation that led to his death, the complaint said. It accuses Mr. Schurr of gross negligence in the altercation.

Prosecutors charged Mr. Schurr in June with one count of second-degree murder. He pleaded not guilty. His lawyers didn't respond to requests for comment Wednesday.

A spokesman for the city of Grand Rapids said it hasn't received the lawsuit.

*—Joseph De Avila and Jennifer Calfas*

NORTH CAROLINA

## Gaming Panel Says Casino Broke Law

A North Carolina tribal casino violated federal law by allowing deep-pocketed outsiders excessive control over the facility's expansion, according to the findings of an investigation by the National Indian Gaming Commission made public Wednesday.

The NIGC issued a "Notice of Violation" against the Catawba Indian Nation's casino in Kings Mountain, N.C., and various outside backers.

Casino officials say they will resolve any matters of concern.

*—Mark Maremont*

CARLOS OSORIO/ASSOCIATED PRESS

**Peter Lyoya wipes his eyes after looking at video of his son's shooting during a news conference on Wednesday in Detroit.**

# U.S. NEWS

# New York Attorney General Defends Harassment Inquiry

Critics say James was slow to release news on investigation of her former chief of staff

By Jimmy Vielkind

CAITLIN OCHS/REUTERS

**Attorney General Letitia James says she was 'confident in the steps that were taken.'**

Letitia James, the New York attorney general who garnered national attention for her sexual-harassment investigation into now-disgraced former Gov. Andrew Cuomo, on Wednesday defended her recent handling of harassment allegations against a former top aide.

Ibrahim Khan, her former chief of staff whose resignation was announced last week, was accused in October of having inappropriate contact with two women in separate encounters outside the office, according to two people familiar with the matter.

Ms. James on Wednesday thanked the women who came forward and said an outside investigation substantiated their allegations. Within 24 hours of a complaint being filed, the attorney general's office told Mr. Khan to work from home, she said. He resigned while the investigation was ongoing, she said.

"I am confident in the steps that were taken to swiftly review the allegations and in the integrity of the investigation," Ms. James said.

In a statement last Friday, Mr. Khan said he resigned after the completion of Ms. James's first term in office and said his decision was unrelated to the investigation. Neither Mr. Khan nor his lawyer returned messages seeking comment on Wednesday.

Ms. James's handling of the episode has prompted criticism from an advocacy group, some New York Republicans and Mr. Cuomo's aides. They said Ms. James didn't immediately release information about what had occurred and Republicans accused her of keeping the matter quiet until after her re-election last month. Ms. James defeated Republican Michael Henry by nearly 10 percentage points.

Ms. James's 2021 investigation into allegations of sexual harassment by Mr. Cuomo culminated in a report she released last August, in which two outside lawyers detailed how Mr. Cuomo harassed multiple women who worked for him in violation of state and federal law.

He denied forcibly touching anybody but was forced to resign and said Ms. James's work was motivated by politics.

Ms. James said her conclusions—which were released publicly in a 168-page report—were based on interviews with 179 people and reviews of tens of thousands of documents. "I am inspired by all the brave women who came forward, but more important, I believe them," Ms. James said in August 2021.

The attorney general's office has thus far not made public the investigative report into Mr. Khan, which was prepared by the law firm Littler Mendelson P.C. There is a difference between a private complaint and the investigation into Mr. Cuomo, which began with a referral from the former governor's office, Ms. James said Wednesday, according to a video published by the New York Post.

The attorney general should release the report on Mr. Khan, with redactions to protect the identity of the complainants, said the Sexual Harassment Working Group, an advocacy organization formed by people who were harassed by New York politicians. "The public has received information in pieces, leading to a lack of clarity," the group said Tuesday.

Rich Azzopardi, a spokesman for Mr. Cuomo, said Ms. James was being hypocritical. "She 'believes all women' when it is in her political interest—otherwise, she attacks the accuser or covers up the complaint," Mr. Azzopardi said.

Assemblyman Colin Schmitt, a Republican, faulted Ms. James's office for retaining an outside law firm without obtaining the normal preclearance from the state controller's office. Mr. Schmitt said selecting the firm compromised the public's trust because Littler Mendelson recently hired an attorney, Johane Severin, from Ms. James's office.

The AG's office first became aware of the allegations against Mr. Khan on Oct. 2 and advised him the next day to work remotely and refrain from socializing with colleagues, deputy general counsel Serena Longley said in an email released Monday.

Mr. Khan tendered his resignation on Nov. 22 effective at the end of the year, according to a letter released by Ms. Longley.

She said Ms. James's office hired an outside firm because of Mr. Khan's senior position. The investigative team didn't include any former employees of the attorney general's office, Ms. Longley wrote in an email shared with reporters.

A representative from Littler Mendelson said Ms. Severin had no involvement with or awareness of the investigation.

# *Apple Beefs Up Security*

*Continued from Page One*

geted, he said.

The FBI said it was "deeply concerned with the threat end-to-end and user-only-access encryption pose," according to a statement provided by an agency spokeswoman. "This hinders our ability to protect the American people from criminal acts ranging from cyber-attacks and violence against children to drug trafficking, organized crime and terrorism," the statement said. The FBI and law enforcement agencies need "lawful access by design," the statement said.

A spokesman for the Justice Department declined to comment.

Former Western law-enforcement and intelligence officials said they were surprised by Apple's decision in part because the company had refrained in the past from rolling out such encryption settings for iCloud. The officials said Apple would sometimes point authorities to the iCloud as a possible means of collecting information that could be useful for criminal investigations.

Ciaran Martin, former chief of the U.K.'s National Cyber Security Center, said the announcement by Apple could pose legal complications for the company in multiple democracies that in recent years have adopted or weighed restrictions on technology that can't be responsive to law-enforcement demands.

"Things will only be clearer when further technical details are given," Mr. Martin said. "But on the face of it, existing legislation in Australia and looming legislation in the U.K. would seem to give those governments the power to tell Apple in those countries effectively not to do this."

Last year, Apple proposed software for the iPhone that would identify child sexual-abuse material on the iPhone. Apple now says it has stopped development of the system, following criticism from privacy and security researchers who worried that the software could be misused by governments or hackers to gain access to sensitive information on the phone.

The new encryption system, which early users began testing Wednesday, will roll out as an option in the U.S. by year-end, and then worldwide including China in 2023, Mr. Federighi said.

"This development will prompt questions at home and abroad, including whether the government of China will really accept a loss of data access," said Sumon Dantiki, a former senior FBI and Justice Department official who worked on cyber investigations and is now a partner at the King & Spalding law firm. U.S. officials have long pointed to China's increasingly strict demands for access to data on companies that operate within its borders as a national-security concern.

**The new encryption system will roll out as an option in the U.S. by year end,**

In addition to Advanced Data Protection, Apple also is modifying its Messages app to make it harder for messages to be snooped on, and it will now allow users to log in to their Apple accounts with hardware-based security keys made by other companies such as Yubico.

Privacy groups have long called on Apple to strengthen encryption on its cloud servers. But because the Advanced Data Protection encryption keys will be controlled by users, the system will restrict Apple's ability to restore lost data.

To set up Advanced Data Protection, users will have to enable at least one data-recovery method. This could be a recovery key—a long list of numbers and characters that users could print out and store in a secure location—or the user could assign a friend or family member as a recovery contact.

Over the past two decades, businesses and consumers have moved much of their data off computer systems that they control and onto the cloud. That trend has made these cloud systems an attractive target for cyber intruders.

Mr. Federighi said that Apple isn't aware of any customer data being taken from iCloud by hackers but that the Advanced Data Protection system will make things harder for them. "All of us in the industry who manage customer data are under constant attack by entities that are attempting to breach our systems," he said. "We have to stay ahead of future attacks with new protections."

As Apple has locked down its systems, governments worldwide have become increasingly interested in the data stored on phones and cloud computers. That interest has led to friction between Apple and law-enforcement agencies, along with a growing market for iPhone hacking tools. In 2020, then-Attorney General William Barr pressured Apple for a way to crack the iPhone's encryption to help with a terror investigation into a shooting that killed three people at a Florida Navy base.

Advanced Data Protection will reduce the amount of iCloud information that Apple can provide to law-enforcement agencies, which frequently request iPhone data from Apple as part of their investigations. Apple received requests for information on 7,122 Apple accounts from U.S. authorities in the first six months of 2021, the last period for which the company has provided information.

Apple had already offered end-to-end encryption for some of its services, but the protection will now extend to 23 services, including iPhone backups and Photos. However, three services—Mail, Contacts and Calendar—won't qualify for Advanced Data Protection because they use older technology protocols, Mr. Federighi said.

Mr. Federighi said Apple believes it shares the same mission as law enforcement and governments: keeping people safe.

**Watch a Video**

Scan this code for a video on how Apple's iCloud encryption works.

# WORLD NEWS

# Peru Congress Ousts Embattled President

## Castillo is removed after he tries to dissolve the legislature to hold off his impeachment

By Ryan Dube

LIMA, Peru—Lawmakers overwhelmingly voted to remove President Pedro Castillo from office, shortly after the Peruvian leader plunged the country into turmoil by saying he would dissolve Congress to avoid impeachment.

Lawmakers on Wednesday declared Mr. Castillo morally unfit to hold office and Vice President Dina Boluarte assumed the presidency of the country of 33 million.

"I request a political truce to install a government of national unity," Ms. Boluarte said after taking the oath of office.

The hourslong constitutional crisis began when Mr. Castillo, a former rural schoolteacher who improbably won the presidency last year, set out to avoid an impeachment vote that was to take place late Wednesday.

Mr. Castillo was detained by police after leaving the presidential palace and will be charged with the crime of rebellion, the attorney general's office said. Local press reports said that Mr. Castillo had been trying to make it to the Mexican embassy. Mexican Foreign Minister Marcelo Ebrard said his government would likely grant Mr. Castillo asylum if requested, according to a transcript of comments he gave to Mexican media. He said he had not heard from the former president.

Before being sworn in, Ms. Boluarte, who became the first woman to hold the presidency, said she rejected "the decision by Pedro Castillo to rupture the constitutional order with the closure of Congress."

"This is a coup d'état that has worsened the political and institutional crisis," she said.

Mr. Castillo announced his move against Congress hours before lawmakers were set to debate the impeachment motion, the third against him in a 17-month-long rule in which he has faced corruption accusations and been engulfed in several political scandals. He regularly replaced ministers and other high-ranking government officials, affecting investments in a country that is one of the world's biggest copper producers.

Peru has been mired in political turmoil for the past six years, and was walloped by the pandemic, leading to an increase in joblessness and undermining public trust in a fragmented political class with weak political parties and racked by corruption scandals.

PERU'S POLICE ADMINISTRATION OFFICE/ASSOCIATED PRESS

Police question ex-President Pedro Castillo, second left, and ex-Prime Minister Anibal Torres, left.

In recent years, prosecutors accused four former presidents in graft cases.

Mr. Castillo's announcement in the morning, saying he would dissolve Congress, led to a swift backlash. Top military commanders said they only would obey the constitutional order, and Congress quickly convened to move against him. Former presidents and some of Mr. Castillo's own ministers called him an autocrat.

The Biden administration condemned Mr. Castillo's efforts to dissolve Congress. "We categorically reject any acts to circumvent or to contradict Peru's constitution," said State Department spokesman Ned Price.

Peru's biggest neighbor, Brazil, said the measures undertaken by Mr. Castillo represented a "violation of the validity of democracy and the rule of law."

Mexican President Andrés Manuel López Obrador said his government considered it regrettable that Mr. Castillo should have faced an atmosphere of what he called confrontation and hostility because of the interests of political and economic elites.

Shortly before the vote to oust Mr. Castillo, Peruvian congressman Jorge Montoya said much of the Peruvian state had lined up against the president. "Finally we have the stability and peace that the country needs. The corrupt president has been vacated."

Earlier in the day, Mr. Castillo, said he would install an "exceptional emergency government" that would rule by decree while new elections for Congress were organized. He called for the drafting of a new constitution and said a national curfew would be implemented.

"Congress has destroyed the rule of law, democracy, the separation and balance of powers...with the goal of destroying the presidency and installing a congressional dictatorship," Mr. Castillo asserted in an address. He accused lawmakers along with elites in business and media of conspiring against him, adding they had made it impossible for a farmer like him to govern the country.

Mr. Castillo's announcement reminded many people of President Alberto Fujimori's 1992 closing of Congress and of the courts, which became known as a self-coup in which he neutered those in the state who opposed him. Mr. Fujimori was later jailed on corruption and human-rights crimes.

Francisco Morales, the head of Peru's top court, said Mr. Castillo had launched a coup that would fail because of the president's lack of support.

Attorney General Patricia Benavides said Mr. Castillo broke the constitutional order, while former President Ollanta Humala and opposition politicians called the Peruvian leader a dictator.

*—Patricia Garip and Kejal Vyas contributed to this article.*

# Sister of Iran's Supreme Leader Calls for His Overthrow

By Sune Engel Rasmussen

A sister of Iranian Supreme Leader Ali Khamenei said she cut ties with her brother, calling him a despotic caliph who ignored the voice of Iranians, a sign that people near the top echelons of the system are growing bolder in opposing the clerical leadership.

The sister, Badri Hosseini Khamenei, also called on security forces to lay down arms and join the protesters demanding the ouster of the Islamic leadership.

"The people of Iran deserve freedom and prosperity, and their uprising is legitimate and necessary to achieve their rights. I hope to see the victory of the people and the overthrow of this tyranny ruling Iran soon," Ms. Hosseini Khamenei said Wednesday in a letter posted on Twitter.

Her remarks came as shopkeepers nationwide continued the last of a three-day strike in an attempt to inflict damage on the economy. Protesters gathered at universities in several Iranian cities.

Iranian President Ebrahim Raisi, speaking to a crowd of students at Tehran University that didn't include protesters, said his government would listen to their grievances. However, he repeated a claim by the Iranian establishment that the protests are orchestrated by the U.S. and other foreign enemies, according to the IRNA state news agency.

The protests erupted in September after the death in police custody of a young woman, Mahsa Amini, who was detained for allegedly violating the country's Islamic dress code. The demonstrations quickly broadened into calls for an overthrow of the Islamic Republic, which was founded after the revolution in 1979.

Ms. Hosseini Khamenei previously wasn't known as a vocal critic of the Islamic Republic, but her family includes outspoken dissidents. Her son, Mahmoud Moradkhani, who posted her letter and lives in France, is a declared opponent, and her daughter was arrested during the recent demonstrations. Her late husband was imprisoned for a decade protesting against the rule of Ayatollah Ruhollah Khomeini, the founder of the Islamic Republic and Mr. Khamenei's predecessor.

"Many times I brought the voice of the people to the ears of my brother Ali Khamenei decades ago. However, after I saw that he did not listen and continued the way of Khomeini in suppressing and killing innocent people, I cut off my relationship with him," she said.

As an older woman, Ms. Hosseini Khamenei commands respect in Iranian society.

More than 400 protesters have been killed in the unrest, say rights organizations. The government says about 200 people have died.

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# *German Raids Foil Coup Plot*

*Continued from Page One*

ing of a center-left local politician in western Germany and an attack by a gunman on a synagogue in Halle, eastern Germany, that left two people dead later that year.

At the same time, there has been growing concern among German officials about the radicalization of members of the military and security services. Several police officers and members of the armed forces have in the past been arrested in raids connected to extremist groups. In 2020, the government said it would disband part of its elite special-forces unit and rebuild the rest under new leadership after it was infiltrated by far-right elements.

While members of extremist groups in the armed forces and security and law-enforcement agencies constitute a small minority, the presence of rogue networks within the security establishment is an acutely sensitive matter because of Germany's Nazi past.

During the Covid-19 pandemic, unrelated groups with diverse political backgrounds began coalescing around their rejection of the state and its institutions, according to the German domestic intelligence agency. The phenomenon gave rise to increasingly violent protests, which culminated in an attempt to storm parliament in 2020.

"They do not have classic ideology or political rallying point," an official with the agency said. "They include far-right extremists...cults, pro-Russian agitators, anti-Semites and all manner of people from across the spectrum, united only in their rejection of the state, the democratic order and its institutions."

BORIS ROESSLER/DPA/ASSOCIATED PRESS

One of the suspects, identified as Heinrich XIII Prinz Reuss.

News of Wednesday's arrests prompted alarm from politicians and Jewish organizations that had been warning about in increase in anti-Semitic attacks in the country.

The alleged terror group, whose suspected leaders included a former elite paratrooper commander, had been attempting to recruit police and armed-forces members, and had sought to set up cells across Germany to help it install and maintain a military government, according to the prosecutor, Mr. Frank.

"The suspects are united in a deep rejection of the Federal Republic of Germany, which has in the course of time developed in a decision to initiate a violent coup for which they had made specific preparations," the prosecutor said.

"The members of the organization understood that their endeavor could only be realized by using military means and violence against representatives of the state. This includes committing murders."

"The people who had been arrested subscribe to conspiracy myths composed of different narratives of the Reichsbürger and the QAnon ideologies," Mr. Frank said.

The German Reichsbürger, or Citizens of the Reich, movement doesn't recognize the authority of the postwar government. Members have printed their own passports and other documents, and set up their own schools. Some factions seek to re-establish the German Empire that was dismantled after World War I.

QAnon is a far-right, loosely organized network and community of believers who embrace a range of outlandish and unsubstantiated beliefs. It has spread worldwide from the U.S. and has been linked to the Jan. 6, 2021, attack on the Capitol.

Outside the U.S., QAnon online channels have their largest subscriber base in Germany, according to several assessments by extremism researchers. The conspiracy has been spreading rapidly in Germany since 2020, especially in the ranks of critics of Covid-19 restrictions.

The people detained on Wednesday included a sergeant serving with the KSK, the special military command of Germany, and a former lawmaker, as well as several former servicemen, including two colonels, officials said.

One of the alleged ringleaders was named by the prosecutor as Heinrich XIII P.R. Der Spiegel and other German news publications identified the man as Heinrich XIII Prinz Reuss, a 71-year-old prince and known far-right extremist. In a speech posted on YouTube in 2019, Mr. Reuss espoused anti-Semitic views and conspiracies.

Calls to a number on what claims to be the prince's website went unanswered.

Another suspect was identified by German publications as Birgit Malsack-Winkemann, 58, a judge in Berlin and a former member of parliament for the nationalist Alternative for Germany party. A lawyer who has in the past represented Ms. Malsack-Winkemann declined to comment.

# Pope Francis Equates Conflict in Ukraine With the Holocaust

BY FRANCIS X. ROCCA

ROME—Pope Francis compared the war in Ukraine to the Nazi genocide of the Jews, in his latest escalation of rhetoric on the conflict.

The comments on Wednesday risked aggravating tensions between the Vatican and Moscow following the pope's earlier comparison of the war to Soviet-instigated genocide and his characterization of ethnic-minority Russian troops as especially cruel.

Greeting Polish pilgrims at his weekly public audience at the Vatican, the pope noted a recent commemoration of Operation Reinhardt, the 1941 German effort to exterminate the Jews of Poland, which killed about two million people.

"History repeats itself, repeats itself. Look at what is happening now in Ukraine," the pope said, in an apparently off-the-cuff comment added to his prepared text.

The pope in November compared the war in Ukraine to Stalin's 1930s terror famine, which he called genocide. Though he followed his usual practice of not naming Russia as the aggressor on Wednesday, his latest comment seemed likely to irritate Moscow, which has presented its invasion as an effort to denazify Ukraine.

The Russian Embassy to the Vatican didn't respond to a request to comment.

"The scale, circumstances, and methods of Operation Reinhardt were very different" than the current war in Ukraine, said the Rev. Pawel Rytel-Andrianik, deputy director of the Abraham J. Heschel Center for Catholic-Jewish Relations of the John Paul II Catholic University of Lublin, Poland, whose commemoration of the operation the pope acknowledged in his remarks.

"However, given what created the conditions for it—the unjustified military aggression of one country against another—we can speak, in some sense, of history repeating itself, from which humanity has not learned its lesson," he said.

Pope Francis has frequently deplored the suffering of Ukrainians since Russia's full-scale invasion in February, but has generally avoided explicitly blaming Moscow, a practice he defended in November.

"It is well known whom I am condemning. It is not necessary that I put a name and surname," the pope told the U.S. Catholic magazine America. "Why do I not name Putin? Because it is not necessary."

ANDREW MEDICHINI/ASSOCIATED PRESS

Pope Francis had earlier compared the war to Stalin's terror famine.

LIBKOS/ASSOCIATED PRESS

A resident leaves his home after Russian shelling destroyed a Bakhmut apartment building in Ukraine's eastern Donetsk region.

# Russia Boosts Defenses After Strikes

BY IAN LOVETT

Russia took steps to strengthen its defenses following a string of strikes deep within its borders that it blamed on Kyiv, while Moscow's forces launched drones and missiles at southern Ukraine.

Several villages in Ukraine's Zaporizhzhia region were hit by drones and S-300 surface-to-air missiles overnight, governor Oleksandr Starukh said Wednesday. More than 20 homes were struck and three people were injured, including a 15-year-old girl, he said.

Nikopol, in the neighboring Dnipropetrovsk region, was hit by heavy artillery that destroyed a dozen homes and damaged gas pipelines and a school, said governor Valentyn Reznichenko.

The Russian strikes come after a series of drone strikes deep inside Russia earlier this week. On Tuesday, drones hit an airfield in the Russian city of Kursk, igniting a fuel-storage facility. A day earlier, strategic-bomber bases in the cities of Engels and Diagilevo—both hundreds of miles from Ukrainian-controlled territory—were hit.

Kyiv hasn't claimed responsibility for the strikes. Though Ukrainian forces aren't believed to possess the kinds of long-range cruise missiles that Moscow has used to hit infrastructure across Ukraine, officials have hinted that they have the ability to hit bases deep inside Russia.

Moscow, meanwhile, has been bolstering its defenses across its land border with Ukraine, according to the British Ministry of Defense.

The governor of Russia's Belgorod region, which borders northeastern Ukraine, on Tuesday announced the creation of territorial defense units. "We are forming several battalions of those who, due to health reasons or within the limits of age, cannot be called up by the armed forces, but have combat experience and a great desire, if necessary, to defend their home and family," Vyacheslav Gladkov wrote on Telegram.

Russian President Vladimir Putin gathered his national security council Tuesday to discuss how to guarantee "internal security," state media said.

"There is a realistic possibility that the Russian authorities are promoting defensive preparations within internationally recognized Russian territory to burnish patriotic feeling," the British Ministry of Defense wrote Tuesday on Twitter.

Meanwhile, the most intense fighting has been taking place in eastern Ukraine, where Russian forces have been pushing to take the city of Bakhmut.

Wednesday, Ukrainian President Volodymyr Zelensky said Russian forces carried out an attack on Kurakhove—a town in the eastern Donetsk region—that he said was aimed at civilians "at the market, elevator, gas station, bus station, residential building." At least 10 people were killed and many wounded. Moscow has denied deliberately targeting civilians.

Igor Girkin, a former Russian militant commander and an influential voice among Russian hard-liners, visited troops in Donbas recently. He wrote Tuesday on Telegram that what he found was a poorly motivated Russian army, especially compared with Ukrainian forces. "The troops are fighting 'by inertia,' not having the slightest idea of the ultimate strategic goals of the current military campaign," he said, noting that fighters from Luhansk and Donetsk were better motivated.

"Ukraine will NOT freeze in winter, will NOT rebel and will NOT fight worse. Vice versa. Its soldiers, who have already believed in their strength as a result of the autumn victories...will only fight angrier and more stubbornly," he wrote. "And they will be met only by apathetic performance of duty, behind which many fighters and commanders have long been [asking] the unresolved question: 'What are we doing here.' "

## WORLD WATCH

SCIENCE

### Two-Million-Year-Old DNA Is Analyzed

Scientists have analyzed what they say is the oldest DNA recovered to date, allowing them to reconstruct what life was like two million years ago in northern Greenland.

The findings suggest a rich ecosystem that sustained a mix of animals and plants that doesn't coexist anywhere on Earth today.

The researchers analyzed fragments of ancient DNA preserved in the area's sediments. Based on the analysis, what is now a polar desert was once much warmer.

The region hosted mastodons, reindeer, lemmings and geese, as well as birch, poplar and thuja trees. Horseshoe crabs, green algae and other marine life occupied nearby waters.

Eske Willerslev of the University of Cambridge, who helped lead the research, described it as a "mixture of Arctic and temperate ecosystems with no present day analogues."

The samples are a million years older than the previous record holder—DNA taken from a one-million-year-old Siberian mammoth bone.

The study was published Wednesday in the journal Nature.

*—Josh Ulick*

INDONESIA

### Freed Bomb Maker Kills Officer in Attack

A Muslim militant and convicted bomb maker who was released from prison last year blew himself up Wednesday at a police station on Indonesia's main island of Java, killing an officer and wounding 11 people, officials said.

The attacker entered the Astana Anyar police station with a motorcycle and detonated one of two bombs he was carrying as police were lining up for a morning assembly, said Bandung city Police Chief Aswin Sipayung. The other explosive was defused.

National Police Chief Gen. Listyo Sigit Prabowo said Wednesday that the attacker was believed to have been a member of the militant organization Jemaah Anshorut Daulah, which pledged allegiance to the Islamic State group and was responsible for other deadly suicide bombings in Indonesia.

He said police identified the man as Agus Sujatno, also known by his alias Abu Muslim. He was released from the Nusakambangan prison island last year after completing a four-year sentence on charges of terrorist funding and making explosives that were used in a 2017 attack on a municipal building also in Bandung, the capital of West Java province.

*—Associated Press*

UNITED KINGDOM

### Airport Staff Plan Christmas Walkout

Britain's Conservative government on Wednesday threatened "tough" action to curb strikes, as airport passport officers became the latest public-sector workers to announce December walkouts.

The Public and Commercial Services Union said its members at Gatwick, Heathrow, Manchester, Birmingham and Cardiff airports would strike for eight days between Dec. 23 and Dec. 31, one of the busiest times of year for international travel.

Labor unrest has spread across both public- and private-sector workplaces as employees seek pay raises to keep up with inflation that has hit 11.1%, driven by soaring prices for energy and food.

Railway staff and postal workers are engaged in a series of 24- or 48-hour walkouts. British nurses are due to strike on Dec. 15. Ambulance crews and dispatchers plan to walk out on Dec. 21 and Dec. 28.

The government says public-sector workers deserve raises, but double-digit increases are unaffordable. U.K. Prime Minister Rishi Sunak's spokesman, Max Blain, said government officials were discussing new powers, but he wouldn't say what they were considering.

*—Associated Press*

NACHO DOCE/REUTERS

**TRAIN CRASH: Spanish officials said 155 people were hurt in an accident Wednesday in Montcada i Reixac, a town just north of Barcelona. No serious injuries were reported.**

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# Chinese Exports Extend Decline

November downturn signals trade boom that powered global growth in 2021 is fading

By Stella Yifan Xie

Cargo ships dock to load and unload containers at the terminal in China's Lianyungang Port.

CFOTO/DDP/ZUMA PRESS

HONG KONG—Chinese exports fell at the steepest pace in more than two years in November, the latest indication of how pandemic restrictions and waning global demand for goods are throttling China's economy.

Outbound shipments from China plunged 8.7% year-over-year, the biggest drop since February 2020, when a nationwide lockdown ground economic activities to a halt. Economists polled by The Wall Street Journal had forecast a 2% decline.

The sharper-than-expected plunge comes amid weakening factory activity and a sluggish recovery in China's property sector, adding pressure on Beijing to shore up economic confidence at home.

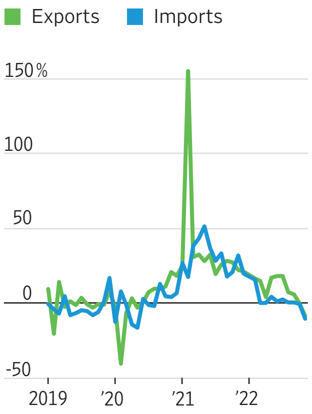
November's data may also portend badly for the global economy, economists say, as a sustained slide in Chinese exports sends a signal that a boom in trade that powered global growth in 2021 is fading, adding to the risk of a recession. Central banks in the U.S. and other developed countries have been raising interest rates to tame inflation, damping demand for Chinese goods.

The International Monetary Fund expects the global economic growth rate to slow to 2.7% in 2023, down from 3.2% projected for this year and 6% in 2021 as inflation cuts into economic activities and people's living conditions.

In a meeting on Tuesday chaired by President Xi Jinping, top Communist Party officials called for a fine-tuning of the country's Covid-19 restrictions and urged measures to boost market confidence and domestic demand. Officials have to "better coordinate pandemic prevention and the need for economic and social development," according to the government's readout of the Politburo meeting.

The pledge by Chinese policy makers to make economic stability a priority in 2023 is the most recent recognition of the toll from the country's stringent Covid policy, which has crippled supply chains, stifled consumer spending and most recently, fueled mass protests across major cities in China. Economists now expect

**China's imports and exports, change from one year earlier**




Source: Wind

China's growth this year to be the weakest in decades, excluding 2020, when the pandemic struck.

On Wednesday, China's health authority began paring back tight Covid restrictions, allowing Covid patients who show mild or no symptoms to recover at home, instead of in a government quarantine center, a major step by the country to experiment with living with the virus. Most requirements for virus testing and scanning health QR codes when entering places will be scrapped.

Still, many economists warn that China's shift to reopening won't translate into a sharp rebound, especially as the country still falls short of preparation, such as ramping up the vaccination rate among the elderly.

Others predict the exit from a zero-Covid policy could be chaotic, with a surge in cases inflicting more pain on the economy in the near term.

"It is good news in a sense that there's light at the end of the tunnel," said Christopher Beddor, deputy China research director at Gavekal Dragonomics. Even so, the reopening process will be messy as the easing policy is unevenly enforced in cities, he said, and any increased optimism about jobs and income may be offset by near-term worries about infection.

Unlike in early 2020, when the country's export engine helped pull China's economy out of the doldrums, this year, there may be no such silver lining.

Exports to the U.S. fell 25% from the year prior in November, the fourth straight monthly decline, after a 13% drop in October, while sales of goods to the European Union dropped 11%, versus a 9% decline in October.

Shipments of nearly all types of goods, including furniture, toys and electronics, retreated sharply—further evidence that consumers in the West are cutting back on goods spending as inflation remains elevated in many countries.

International trade growth is likely to slow at the end of 2022 and early 2023 as economic activity weakens, many economists say.

China's imports fell 11% in November from a year earlier, exceeding a 4% drop anticipated by economists. It was the largest decline in 30 months.

The result is a reversal of China's surging trade surplus, which narrowed from $85 billion in October to nearly $70 billion in November, official data show.

# EU Sues China at WTO Over Lithuania

By Daniel Michaels

BRUSSELS—The European Union sued China at the World Trade Organization over punitive trade restrictions Beijing imposed on Lithuania last year, harming the small Baltic state and the 27-country bloc.

China's near-total curtailment of exports from Lithuania last December followed moves by leaders in Vilnius to support Taiwan, which Beijing considers a breakaway province.

The EU on Wednesday said as a result of China's restrictions, trade between it and Lithuania fell 80% this year through October. China's restrictions cover exports directly from Lithuania and Lithuanian elements of goods exported from other EU countries, the bloc said.

Lithuania's annual exports to China are valued at more than €220 million ($231.3 million), but a broader concern is "a chilling effect" on trade in the EU, a bloc official said.

"China has applied discriminatory and coercive measures" with its policies, the EU said.

China's Ministry of Commerce said it regretted the EU's decision. It said China would handle the matter in line with the WTO's dispute-settlement procedures and would "resolutely safeguard its legitimate rights and interests."

The EU's trade office said it filed a separate complaint against limits China placed on the ability of EU high-tech patent holders to file lawsuits outside China to protect their intellectual property. The restrictions, known as anti-suit injunctions, forbid EU patent-holders from enforcing patent rights, even in EU courts, the trade office said. Violations of China's rules, which affect companies such as makers of mobile-communication technology, can lead to fines of more than €130,000 a day, the EU said.

"Through these anti-suit injunctions China unilaterally imposes rules for the benefit of its own enterprises, to the detriment of the WTO multilateral system for the protection of intellectual property rights," the EU said.

Brussels this year filed less-formal complaints on both issues, but didn't achieve satisfactory results. Both issues "are highly damaging to European businesses," the bloc's trade office said.

The outcome of filings in the WTO is far from certain because the 164-member organization is partially paralyzed by disputes among the U.S., China and other members.

# U.S. to Step Up Australia Military Presence

By Mike Cherney

Defense ministers from the U.S., U.K. and Australia met Wednesday.

KEVIN LAMARQUE/REUTERS

SYDNEY—The U.S. said it would deploy more military assets in Australia, including air, land and sea forces, as the countries agreed to deepen defense cooperation amid growing concerns about China's actions in the Indo-Pacific region.

The two nations said they would put more munitions and fuel in Australia to support U.S. military activity, jointly develop airfields in northern Australia to support increased rotations of U.S. aircraft, expand locations where U.S. troops can conduct exercises and further integrate their defense-industrial bases. They invited Japan, another ally, to participate in three-way military drills.

"China's dangerous and coercive actions throughout the Indo-Pacific, including around Taiwan, toward the Pacific island countries and in the East and South China Seas, threaten regional peace and stability," Defense Secretary Lloyd Austin said at the end of annual talks between American and Australian officials.

China has said its foreign policy aims for peace and that it doesn't engage in any coercion. Still, Beijing has pledged to take control of Taiwan by force if necessary.

The outcome of the talks in Washington underscores Australia's key position in U.S. strategy for the Indo-Pacific, some security analysts said. That strategy appears to involve boosting the U.S. presence in northern Australia, which could serve as a staging ground for allied forces should there be a conflict with China.

The U.S. and Australia had been deepening defense cooperation, and U.S. Marines have been rotating into northern Australia for annual training exercises. Last year, the two countries signed a three-way military pact with the U.K. that will help Australia develop a nuclear-powered-submarine capability.

In recent weeks, Australian officials said upgrades to an air force base in northern Australia would allow it to accommodate up to six B-52 bombers, which can carry nuclear weapons and which U.S. officials view as crucial to deterrence.

"The past several years have seen a profound shift in the U.S.-Australia relationship," said Charles Edel, Australia chair at the Center for Strategic and International Studies in Washington. "The U.S.-Australia relationship will take on increasing significance for how the United States operates in, and beyond, the Indo-Pacific region."

Mr. Edel said it remains to be seen how quickly the U.S. and Australia can deliver on all these new commitments, and whether they clear bureaucratic and legislative barriers to closer cooperation.

Beijing has previously said that the U.S. military buildup in northern Australia could spark an arms race. China has also made expansive claims on the South China Sea, which the U.S. has rejected, and sought to increase its influence with Pacific island nations.

The U.S., in response, has been seeking to build a network of allies as a counterweight, while enhancing the U.S. military footprint in the region.

China-Australia ties have frayed in recent years, though China is Australia's biggest trading partner and buys much of its iron ore.

# *Beijing Ends Many Covid Curbs*

A man in Beijing carried his release papers Wednesday after being discharged from a government Covid-19 quarantine facility.

KEVIN FRAYER/GETTY IMAGES

*Continued from Page One*

criticized the West's approach of living with the virus as showing a disregard for lives. But the official tune began to change in November, after signs of economic and supply-chain disruptions again emerged and protests erupted in dozens of major cities. Covid-related disruptions at the world's biggest iPhone assembly plant led Apple Inc. to question whether it can still rely on China as its biggest manufacturing base.

Health officials and state media have recently suggested it is now possible to relax controls, citing research showing the latest strains of the virus are less deadly, though they spread more easily. Better techniques to control and treat Covid mean China can apply more nimble and precise measures that have less impact on people's lives and economic activity.

The new measures were a response to the public's "strong reaction" to overzealous local officials who continued with harsh restrictions despite Beijing's orders to ease pandemic controls, said Li Bin, the deputy director of China's National Health Commission.

The number of areas designated high risk across the country jumped to 42,000 last week from around 32,000, according to data compiled by Beijing Daily. More than two million infected people and their close contacts remain in quarantine.

The new rules bar officials from arbitrarily locking down neighborhoods and from shutting businesses—but the apartments or buildings where infections are found will continue to be placed under lockdown. Covid patients with mild or no symptoms and their close contacts will be allowed to isolate at home instead of being shipped to government quarantine facilities.

Most requirements for virus testing and the scanning of health QR codes when entering premises will be scrapped, except for places deemed vulnerable such as nursing homes, nurseries or schools. Domestic travelers will no longer need to present a negative virus test or have their health codes checked when arriving in another province.

One obstacle to ditching the zero-Covid strategy had been the wide public support in China last year, said Dali Yang, a professor of political science at the University of Chicago. But that has waned with the prospect of another year of lockdowns, restrictions on movements and seemingly endless virus tests.

Protests erupted in Xinjiang in late November, when officials said 10 people died in a blaze at a locked-down residential block. Videos posted by state-run media showed fire trucks waiting as Covid-related roadblocks were removed. Angry residents took to the streets to demand an end to lockdowns and other measures. A wave of protests unseen for decades in China's tightly controlled society soon spread across the country, including to Beijing and Shanghai.

Given that China's leaders were already seeking a way to exit zero-Covid measures, the protests became a way to justify the pivot, Mr. Yang said. They now need to focus on getting more of China's large elderly population vaccinated, he said.

The government on Wednesday said it would provide more temporary and mobile vaccination stations for the elderly. Low vaccination rates among China's large elderly population have been cited as a barrier to ending restrictions. Although the country has imposed no vaccine mandate, vaccinations will increase as people react to a much higher risk of infection when restrictions are lifted, said Ben Cowling, an epidemiologist at the University of Hong Kong.

China's reported new Covid cases have been falling since the record in late November, a drop that could be attributed in part to reduced mass testing.

There will likely be large Covid outbreaks across China in the next one to two months, but it will be difficult to predict when these will peak because of possible further adjustments in pandemic policies and how people's behavior may change, Mr. Cowling said.

As the stress in the health system builds, some cities may attempt to reintroduce restrictions, but these may not be effective, Mr. Cowling said.

In Beijing, people will still need to present a negative test result and scan their health codes if they wish to eat in restaurants or enter places such as bars, gyms and karaoke bars, in addition to the testing requirements for nursing homes and schools. Large corporations and event organizers will be able to impose test requirements for their premises if they wish. "We're not letting it all go loose," a Beijing health official said on Wednesday.

*—Austin Ramzy and Qianwei Zhang contributed to this article.*

# Xi's Saudi Visit Reflects China's Rise in Mideast

Trip could bring top oil importer and exporter closer amid kingdom's strained ties with U.S.

BY STEPHEN KALIN

RIYADH, Saudi Arabia—Chinese leader Xi Jinping landed in Saudi Arabia for a visit that could deepen the relationship between the world's top oil importer and top oil exporter amid strained U.S.-Saudi ties and a global shuffling of power accelerated by the Ukraine war.

He was received at the airport in Riyadh on Wednesday evening by Saudi Foreign Minister Prince Faisal bin Farhan Al Saud and the head of the kingdom's sovereign-wealth fund, Yasir Al-Rumayyan.

Both sides say their relations remain primarily economic. China is Saudi Arabia's top trading partner and the biggest buyer of its oil, a trend that is only expected to accelerate.

But growing military and geopolitical aspects of their interactions alarm Washington, long the dominant security force in an energy-rich region that is now seeking additional partners, including U.S. rivals.

The trip underlines Beijing's growing influence in the Middle East, where it has also developed ties with Saudi rival Iran, and comes as much of the developing world avoids choosing sides between Russia and Ukraine despite urging from the West.

Riyadh, in particular, has expressed a desire to put its own interests first but says that this isn't intended to favor Moscow or Beijing over Washington.

China hasn't yet demonstrated interest or ability in supplanting the U.S.'s broad role in the Middle East, and the Saudis don't really want to replace the U.S. as their main security guarantor, some analysts say.

But in recent years, China has sold drones, helped manufacture ballistic missiles and aided in the construction of a facility to fabricate uranium yellowcake—an early step along the path to developing a civil nuclear-energy program or nuclear-arms capability. The countries have discussed building a naval base on the Red Sea, one of the world's most strategic waterways.

"While the Saudis have taken some incremental steps in recent years to explore feasible areas of security and defense cooperation with China, it is hard to imagine that this element of the relationship will not get a boost through the Xi visit," Ayham Kamel, head of Eurasia Group's Middle East and North Africa team, said in a research note.

Mr. Xi's trip will be scrutinized for clues about the trajectory of a more maverick Saudi foreign policy under Crown Prince Mohammed bin Salman, whose personal animosity with President Biden has deepened larger tensions between their countries.

The Chinese leader is set to meet on Thursday with Prince Mohammed, the 37-year-old who runs the kingdom's daily affairs, and his aging father, King Salman, before attending a large gathering of Gulf and Arab leaders.

The Saudi state news agency reported that the summit would "discuss ways to enhance joint relations in all fields, and discuss prospects for economic and development cooperation."

Announcing the trip on Tuesday, the Saudis said Mr. Xi and Prince Mohammed would sign a strategic partnership document and at least 20 initial agreements worth more than $29 billion.

SAUDI PRESS AGENCY/AGENCE FRANCE-PRESSE/GETTY IMAGES

Saudi Foreign Minister Prince Faisal bin Farhan Al Saud greeted China's Xi Jinping in the kingdom's capital, Riyadh, on Wednesday.

# Bank of Canada Lifts Rate by Half Point

BY PAUL VIEIRA

OTTAWA—The Bank of Canada raised its main interest rate by a half percentage point and signaled it is at or near the end of its rapid-fire tightening campaign because of slowing growth and early signs of easing price pressures.

The central bank on Wednesday increased its target for the overnight rate to 4.25% from 3.75%, the highest level in nearly 15 years. Economists surveyed by The Wall Street Journal ahead of the policy decision were split on how big a rate rise the bank would deliver. Half said a half point, given labor-market tightness and stronger-than-expected growth, and the other half expected a quarter-point increase, citing signs of weaker consumer spending.

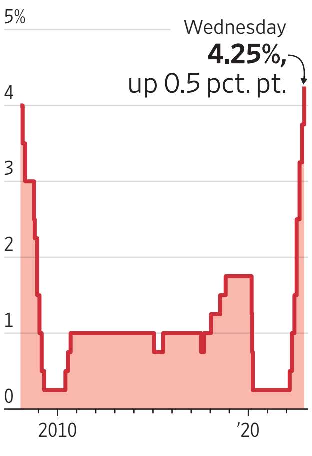
The Bank of Canada said future policy decisions would be guided by incoming data. Previously, the bank had said interest rates would be headed higher to contain inflation.

The central bank's mandate is to set interest rates to achieve and maintain 2% inflation. The annual inflation was 6.9% in October, matching the previous month's advance but down from a peak of 8.1% in June.

The central bank said the series of rate increases this year is starting to curb household demand. The bank said upward price pressures may be losing momentum.

Most economists surveyed by the Journal said the central bank likely would pause once rates hit 4.25%.

**Bank of Canada interest rate**




Source: Bank of Canada

# Oil Prices Boost Kingdom's Coffers

BY STEPHEN KALIN AND RORY JONES

RIYADH, Saudi Arabia—The Saudi government posted a $27 billion budget surplus Wednesday, as this year's high oil prices accelerate Crown Prince Mohammed bin Salman's ambitious plans and boost resource-rich economies across the Persian Gulf.

Buoyant crude prices helped the kingdom's economy expand at one of the fastest rates globally, with the government spending $47 billion more than planned. In a year when global growth is pegged at 3.2%, the International Monetary Fund predicts growth of 7.6% this year in Saudi Arabia. The kingdom's output is expected to reach $1 trillion for the first time, cementing its place among the world's biggest economies.

The boom times have extended to Saudi Arabia's Gulf neighbors, demonstrating how Russia's invasion of Ukraine has redrawn the world's energy map and created new economic winners and losers. The United Arab Emirates and its commercial hub Dubai have benefited this year from high oil prices and a flood of Russian money that is continuing to drive economic growth after a strong postpandemic recovery. In Qatar, high natural-gas prices this year have helped cap off $200 billion in investment in infrastructure in the capital Doha, contributing to the success of the World Cup taking place there this month run smoothly.

"We are possibly one of the most shining spots in the world today," Saudi Finance Minister Mohammed al-Jadaan told reporters Wednesday. "But we are still connected, we are part of the world," he added, and there is "potential downside risk for the world economy that is bothering us."

The kingdom is experiencing a surprisingly successful year even as the U.S., Europe and many developing economies are facing rising inflation and recessions. While much of the world has been hit by higher food and energy prices spurred by the Ukraine war, oil giants such as Saudi Arabia and its neighbors are benefiting from the influx of revenue.

The Saudi government said revenues increased 28% to $328 billion on higher oil sales this year, with $300 billion predicted for next year. It expects oil prices to remain elevated, or above $80 a barrel, according to Abu Dhabi Commercial Bank. Brent crude, the global oil benchmark, was at roughly $78 a barrel Wednesday, down from a high of nearly $130 earlier this year. That is up from an average of $70.86 a barrel last year and $41.96 a year earlier.

It marks the first period of sustained high oil prices for Prince Mohammed, the 37-year-old who rules Saudi Arabia on behalf of his father. He rose to power during the oil-price crash of 2015 and oversaw a period of austerity measures for average Saudis, even as he pushed an ambitious program to diversify the country's economy away from oil.

**$27B**
Saudi Arabia's budget surplus for this year

That effort, known as Vision 2030 for the year it hopes to be completed, was initiated in 2016 as the kingdom grappled with depressed oil prices. Its strong financial position now has strengthened the prince's influence globally, helping restore him to the diplomatic stage after the 2018 murder of journalist Jamal Khashoggi caused Western leaders to shun Riyadh.

Prince Mohammed said the surplus would be used to bolster government reserves, support national funds and strengthen the kingdom's financial position. The possibility of accelerating some priority projects also is being considered, he said.

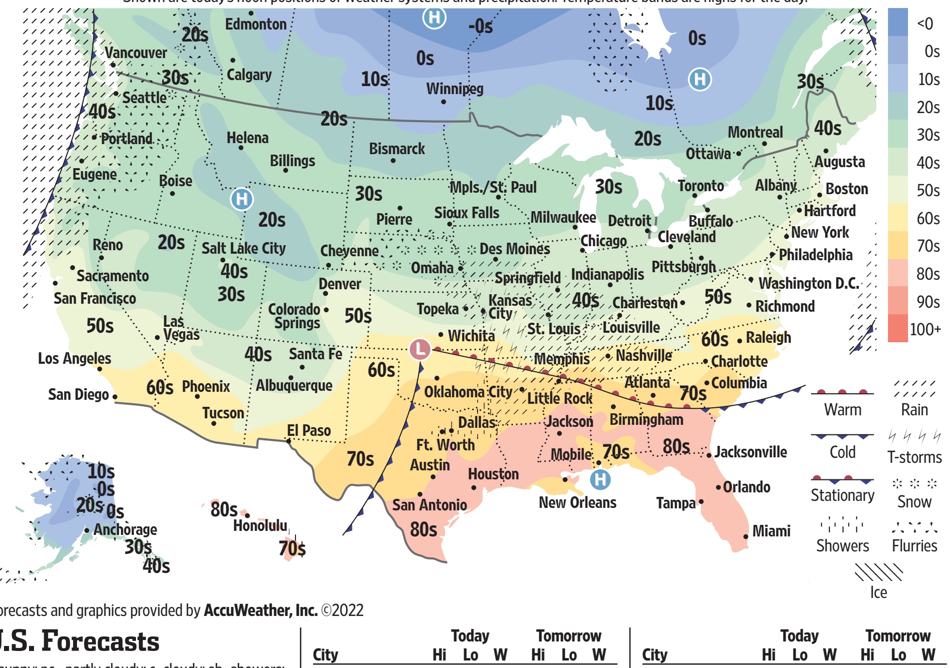
Some of the ambitious projects Prince Mohammed has announced: A plan to build a 1,700-feet tall, 75-mile-long skyscraper in a futuristic group of communities known as Neom; an airport that aims to become one of the world's busiest international hubs; and an island-beach resort.

Saudi Arabia also is pouring money into redeveloping the downtown areas of its top metropolises, Riyadh and Jeddah, as well as a dozen of smaller cities. Its sovereign-wealth investment vehicle, the Public Investment Fund, has poured money into new companies, including an effort to create its own electric-vehicle car brand.

## Weather

AccuWeather | Go to AccuWeather.com

Shown are today's noon positions of weather systems and precipitation. Temperature bands are highs for the day.




Forecasts and graphics provided by AccuWeather, Inc. ©2022

### U.S. Forecasts

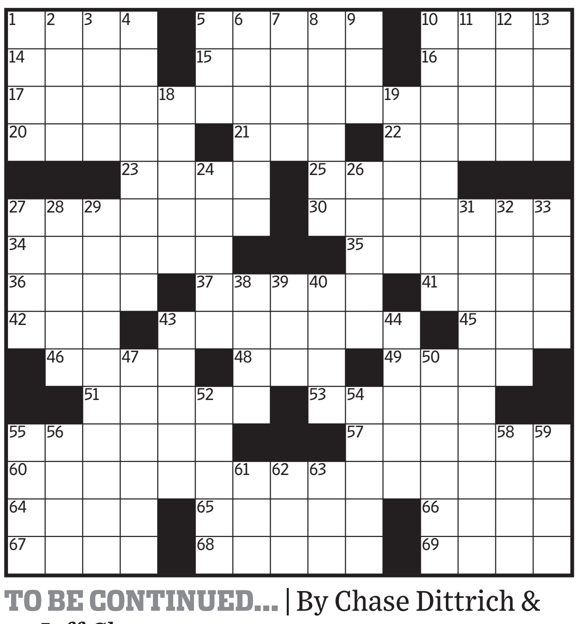
s...sunny; pc... partly cloudy; c...cloudy; sh...showers; t...t'storms; r...rain; sf...snow flurries; sn...snow; i...ice

| City | Today Hi | Lo | W | Tomorrow Hi | Lo | W |
|---|---|---|---|---|---|---|
| Anchorage | 20 | 2 | s | 9 | -7 | s |
| Atlanta | 75 | 60 | pc | 71 | 50 | c |
| Austin | 80 | 64 | pc | 78 | 66 | c |
| Baltimore | 57 | 37 | c | 47 | 38 | r |
| Boise | 36 | 29 | pc | 36 | 28 | sn |
| Boston | 52 | 31 | pc | 44 | 35 | pc |
| Burlington | 41 | 20 | sh | 34 | 21 | pc |
| Charlotte | 68 | 51 | r | 55 | 46 | sh |
| Chicago | 42 | 37 | c | 40 | 34 | sn |
| Cleveland | 43 | 36 | c | 45 | 38 | r |
| Dallas | 76 | 55 | c | 72 | 60 | pc |
| Denver | 50 | 21 | s | 50 | 24 | s |
| Detroit | 40 | 32 | c | 40 | 32 | sn |
| Honolulu | 84 | 73 | pc | 84 | 71 | s |
| Houston | 82 | 66 | c | 79 | 67 | c |
| Indianapolis | 46 | 40 | r | 49 | 38 | r |
| Kansas City | 46 | 34 | t | 41 | 33 | c |
| Las Vegas | 56 | 40 | s | 56 | 41 | s |
| Little Rock | 71 | 58 | r | 69 | 48 | pc |
| Los Angeles | 62 | 45 | pc | 60 | 49 | pc |
| Miami | 82 | 69 | pc | 83 | 68 | s |
| Milwaukee | 40 | 35 | c | 41 | 35 | sn |
| Minneapolis | 31 | 27 | c | 36 | 29 | sn |
| Nashville | 65 | 59 | r | 69 | 43 | sh |
| New Orleans | 79 | 64 | c | 79 | 64 | pc |
| New York City | 54 | 35 | c | 45 | 34 | pc |
| Oklahoma City | 68 | 37 | s | 59 | 45 | c |
| Omaha | 37 | 29 | i | 37 | 29 | pc |
| Orlando | 81 | 62 | pc | 81 | 61 | s |
| Philadelphia | 55 | 35 | c | 49 | 34 | pc |
| Phoenix | 65 | 45 | pc | 63 | 42 | s |
| Pittsburgh | 45 | 36 | c | 43 | 36 | r |
| Portland, Maine | 49 | 26 | pc | 42 | 28 | pc |
| Portland, Ore. | 45 | 38 | r | 43 | 38 | r |
| Sacramento | 53 | 41 | r | 52 | 44 | pc |
| St. Louis | 47 | 44 | r | 50 | 37 | pc |
| Salt Lake City | 39 | 27 | pc | 38 | 27 | c |
| San Francisco | 54 | 45 | r | 54 | 48 | c |
| Santa Fe | 46 | 22 | s | 47 | 22 | s |
| Seattle | 45 | 36 | r | 42 | 38 | sn |
| Sioux Falls | 35 | 28 | sn | 33 | 28 | s |
| Wash., D.C. | 57 | 40 | c | 46 | 40 | r |

### International

| City | Today Hi | Lo | W | Tomorrow Hi | Lo | W |
|---|---|---|---|---|---|---|
| Amsterdam | 43 | 28 | sn | 37 | 28 | sn |
| Athens | 65 | 56 | c | 66 | 58 | pc |
| Baghdad | 69 | 48 | s | 69 | 47 | c |
| Bangkok | 89 | 76 | c | 89 | 75 | t |
| Beijing | 44 | 21 | pc | 43 | 25 | pc |
| Berlin | 38 | 29 | sn | 35 | 26 | c |
| Brussels | 39 | 28 | sn | 35 | 25 | sn |
| Buenos Aires | 91 | 72 | s | 85 | 71 | pc |
| Dubai | 83 | 73 | s | 85 | 70 | s |
| Dublin | 37 | 28 | sn | 37 | 28 | s |
| Edinburgh | 38 | 26 | pc | 37 | 27 | s |
| Frankfurt | 40 | 32 | sn | 38 | 27 | c |
| Geneva | 40 | 35 | c | 41 | 37 | r |
| Havana | 83 | 65 | s | 84 | 60 | s |
| Hong Kong | 71 | 61 | s | 74 | 60 | s |
| Istanbul | 60 | 53 | pc | 61 | 56 | c |
| Jakarta | 86 | 75 | t | 88 | 75 | t |
| Jerusalem | 63 | 47 | s | 63 | 49 | s |
| Johannesburg | 72 | 58 | t | 73 | 57 | t |
| London | 37 | 25 | s | 37 | 27 | s |
| Madrid | 53 | 46 | r | 52 | 44 | r |
| Manila | 90 | 78 | pc | 84 | 77 | t |
| Melbourne | 61 | 51 | pc | 65 | 45 | c |
| Mexico City | 73 | 52 | s | 70 | 50 | s |
| Milan | 44 | 37 | c | 42 | 34 | r |
| Moscow | 23 | 21 | sn | 27 | 23 | sn |
| Mumbai | 90 | 71 | pc | 89 | 69 | pc |
| Paris | 39 | 32 | c | 37 | 27 | pc |
| Rio de Janeiro | 80 | 69 | sh | 83 | 70 | s |
| Riyadh | 76 | 57 | pc | 68 | 52 | pc |
| Rome | 62 | 56 | r | 65 | 57 | r |
| San Juan | 84 | 74 | s | 84 | 72 | pc |
| Seoul | 45 | 29 | pc | 47 | 27 | s |
| Shanghai | 59 | 51 | pc | 56 | 50 | pc |
| Singapore | 85 | 75 | c | 84 | 75 | t |
| Sydney | 72 | 58 | pc | 68 | 57 | pc |
| Taipei City | 71 | 66 | r | 70 | 64 | sh |
| Tokyo | 58 | 44 | s | 50 | 44 | c |
| Toronto | 40 | 31 | c | 35 | 25 | c |
| Vancouver | 44 | 33 | sn | 40 | 36 | c |
| Warsaw | 37 | 30 | c | 34 | 30 | c |
| Zurich | 37 | 30 | c | 36 | 33 | sn |

## The WSJ Daily Crossword | Edited by Mike Shenk



**TO BE CONTINUED... | By Chase Dittrich & Jeff Chen**

**Across**

1 Cooper creation
5 Wrap at a wrap party, perhaps
10 Move like a butterfly
14 Org. with factory inspections
15 British Columbia bozo
16 Bed in a restaurant
17 *..."Ain't gonna happen!"...
20 Pigeon's place
21 Studio location
22 Breaks in cases
23 Friendly fille
25 Human embryo feature that's gone by birth
27 *..."That's all from me"...
30 *..."Move aside!"...
34 Writers Knight and Runyon
35 Runoff election, e.g.
36 Red monster of kids' TV
37 Players' paces
41 NFL reporter Andrews
42 Sole setting
43 *..."In the old days"...
45 ER figures
46 Too precious
48 Painfully red
49 Río Amazonas contents
51 Comparable
53 Smear in the newspaper
55 "All the world," according to Jaques
57 Choose items to exhibit
60 Possesses ultimate authority, like each starred answer in relation to the previous one (and wrapping around)
64 Burn balm
65 Place for a piercing, perhaps
66 Privy to
67 Crook
68 Boilerplate makeup
69 Rowlands with an honorary Oscar

**Down**

1 Monk's wear
2 The ESPY Award for courage is named for him
3 Lose
4 Hopper in a "mob"
5 ___/her
6 Rang
7 Capital nicknamed "Tigerstaden"
8 Reserved for, in a will
9 Drop the ball
10 Hippie's mantra
11 Dudley's "Arthur" co-star
12 What some cookies and coffee are
13 Supermodel Holliday
18 Buff action hero
19 Best of the best
24 App with filters, for short
26 Goldfinger's appropriate first name
27 Horace collection
28 Paid parker
29 Star of 2017's "Beauty and the Beast"
31 Like Sebastian Vettel's races
32 Crete's high point
33 Hankerings
38 Surname of the Rochester governess
39 Many a banker's deg.
40 Windlass part
43 Carefully consider
44 Gardens of Babur setting
47 On cloud nine
50 "Lady Bird" director Greta
52 Is loudly mournful
54 Phrase a bluffer hates to hear
55 Starbuck's boss
56 Pitching goal
58 1982 cyberspace film
59 Purviance who appeared in many Chaplin films
61 Trimming target
62 "___ Just Seen a Face" (Beatles song)
63 Surname separator

▶ Solve this puzzle online and discuss it at WSJ.com/Puzzles.

**Previous Puzzle's Solution**

# A Fabergé Egg Debate Sizzles

*Continued from Page One*
the yacht of someone not known to be an art collector were slim.

"I just laughed," said Andre Ruzhnikov, a London-based Fabergé dealer.

"Justice Department click-bait," said Karen Kettering, a Russian-art appraiser who used to work at Sotheby's auction house.

"It could be a chocolate egg. It could be paper mache. It could be ceramic," said Kieran McCarthy, who curated a recent Fabergé exhibition in London. "It could be made out of wishful thinking."

As part of its effort to pressure Russian leader Vladimir Putin to end his war in Ukraine, the Justice Department in March set up a unit called Task Force KleptoCapture, targeting sanctioned Russian elites. Among other actions, it has seized hundreds of millions of dollars' worth of yachts and private jets. U.S. authorities allege the owners flouted sanctions by using the American financial system to pay for maintenance of the boats and planes.

The task force is run out of the office of Deputy Attorney General Lisa Monaco. At a panel titled "Freezing, Seizing and More" at a security conference in July, Ms. Monaco said U.S. authorities had seized a 300-foot, Russian-oligarch-owned yacht in Fiji and moved it to San Diego.

She didn't name the yacht or the owner, but the Justice Department said in May that it had confiscated a 348-foot yacht named Amadea, owned by Russia's Suleiman Kerimov, in Fiji. Representatives for Mr. Kerimov didn't respond to a request for comment.

Like many a Fabergé egg, that yacht also contained a surprise inside, Ms. Monaco said. "We recovered a Fabergé—or alleged Fabergé—egg," she said.

The remark baffled Fabergé experts. "For an attorney, that was a very imprecise statement," Ms. Kettering said.

She and other Fabergé followers awaited more details, such as a photo. The Justice Department went silent. The

PETER MACDIARMID/GETTY IMAGES

**The Third Fabergé Imperial Easter egg, made for Russia's royal family in 1887, displayed at Wartski in London.**

egg didn't show up in court documents related to the seized Fiji yacht.

Task Force KleptoCapture has been more vocal about other seized artwork. In a recent indictment of a British businessman accused of moving funds through the U.S. on behalf of a sanctioned oligarch, prosecutors described how an auction house hung onto 18 pieces of artwork that it thought were illegally being sent to a sanctioned individual.

Perhaps no object in the art world is more rarefied than a Fabergé egg. Not only do the pieces combine valuable metals and jewels with exquisite craftsmanship, but they also represent a link to the riches and tragedy of Russia's deposed czarist dynasty. The eggs have become a fixture in heist plots, including in "Ocean's Twelve" and "The Simpsons."

Based in St. Petersburg, the House of Fabergé made jeweled art works. None were more famous than the imperial eggs that czars commissioned to give as Easter gifts. They were mostly palm-sized and often bedecked in gold, jewels and enamel.

The first one, completed around 1885, was made of gold and coated in white enamel to look like an actual egg. It opened to reveal a golden yolk, which itself could be opened to reveal a golden hen with rubies as eyes.

"It's not about the intrinsic value of the materials," Mr. McCarthy said. "It's about their artistic potential, how it creates what Fabergé wanted, which was something delightful, something whimsical, something otherworldly."

Czars Alexander III and Nicholas II commissioned 52 in total. Only 50 were delivered before the Russian Revolution felled the monarchy. In 1918, Bolsheviks took Nicholas II, his wife and their five children to a basement, where they were shot and bayoneted.

"The eggs stand as a monument to that family and a reminder of that tragedy," Ms. Kettering said.

Of those 50 imperial eggs, five haven't been seen since the Russian revolution. They are presumed to have been destroyed or scrapped for their materials. Of the 45 remaining, 40 belong to institutions such as museums or foundations. Three are known to be privately owned.

The whereabouts of the other two are the obsession of Fabergé art professionals and amateur researchers. They share findings via get-togethers, which can attract 150 people, or through the thrice-a-year Fabergé Research Newsletter.

Some leading members of this Fabergé coterie said they weren't consulted about the potential egg, but the Justice Department did seek expert advice, according to people familiar with the matter.

Lost eggs sometimes turn up. In 2012, an American walked into the London antique dealer Wartski with photos of an ornament bought at a scrap-metal sale. Mr. McCarthy confirmed it was the 43rd existing egg. Since then, he has only disappointed the hundreds who email him pictures.

The Justice Department too ended up with a Fauxbergé. Officials determined, after consulting other experts, that their find was unlikely to be a missing imperial egg, according to people familiar with the matter. "It's an honest mistake by the U.S. government," said Mr. Ruzhnikov, the London art dealer. "For heaven's sake, they are not experts in Fabergé, and they should've called me."

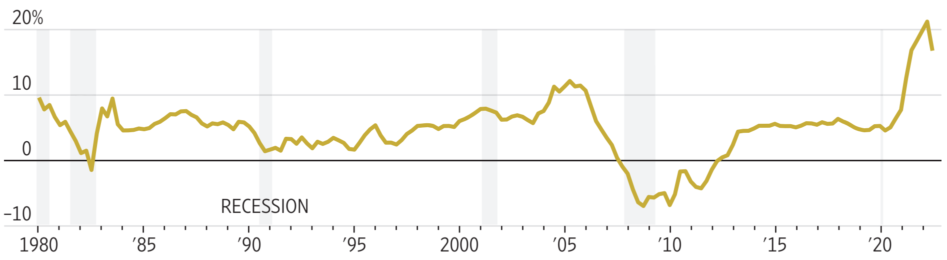
*—Kate Vtorygina contributed to this article.*

FROM LEFT: ROSS D. FRANKLIN/ASSOCIATED PRESS; NIC ANTAYA FOR THE WALL STREET JOURNAL

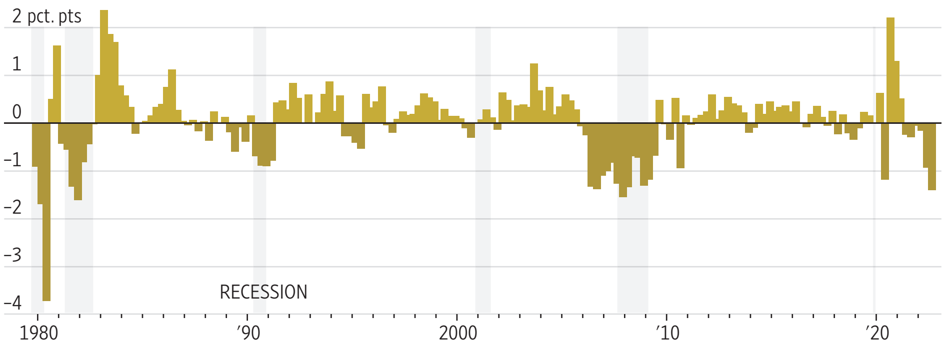
**New housing construction in Phoenix in August 2021. Right, Ole Wendroth, at left, and Amanda Wendroth at their apartment in Ann Arbor, Mich. They put off looking for a house to buy amid high interest rates.**

# Housing Forecast Confounds

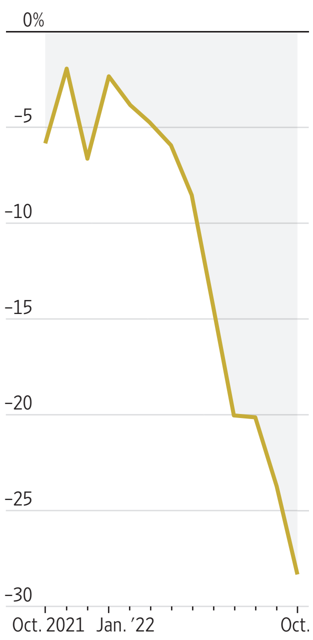
**House-price index, change from a year earlier**




**How much the housing sector added to or subtracted from U.S. gross domestic product***




**Existing home sales, change from a year earlier***




*At a seasonally adjusted annual rate

Sources: Federal Housing Finance Agency (house-price index); Commerce Department (contributions to GDP); National Association of Realtors (home sales)

*Continued from Page One*
they stood in the decades when many older Americans bought their first homes.

"When prices are rising, people can't believe housing will ever go down, and then once prices fall, they can't believe it will ever go up," said Glenn Kelman, chief executive at real-estate brokerage Redfin Corp.

The pandemic caused home sales to surge in 2020 and 2021. Home buyers looked for more space with the rise in remote work and rock-bottom interest rates made buying a home affordable for many Americans.

Home prices soared 45% between January 2020 and June 2022, according to the S&P CoreLogic Case-Shiller National Home Price Index. Rents also soared as younger people chose to move out on their own rather than live with roommates.

Federal Reserve Chair Jerome Powell went so far recently as to call the boom phase of the housing market a "bubble."

"You had housing prices going up at very unsustainable levels and overheating," he said at a Nov. 30 event. "Now the housing market's going to go through the other side of that and hopefully come out in a better place."

Next year's predictions for home prices are unusually varied, economists say. KPMG LLP, an audit and consulting firm, is calling for prices to fall 20% next year, and Goldman Sachs Group Inc. forecasts a 7.5% drop. The National Association of Realtors, meanwhile, is forecasting a 1.2% increase in existing-home prices, and the Mortgage Bankers Association sees prices up 0.7% next year.

How long the slump in sales lasts depends in part on how long it takes the Fed to get control of inflation, which is running at a 40-year high and has triggered the most rapid series of interest-rate increases by the Fed since the early 1980s. The Fed's efforts to slow the economy in great part depend on the housing market slumping, both because that cools off demand for goods and services, and because housing itself is an important contributor to inflation. Other factors, such as wage increases, could keep inflation on the boil.

## Low supply

The surge in interest rates has pushed both buyers and sellers out of the housing market. Buyers have been priced out, or they have retreated because they think prices might be lower in the future.

Ole and Amanda Wendroth scrapped plans to buy a starter home in Ann Arbor, Mich., earlier this year after being repeatedly outbid. They resumed this fall, and then paused their search again. Even though houses now are sitting on the market longer and prices are starting to fall, interest rates have risen so much that their expected monthly payment would be more than $1,000 beyond what they pay in rent.

"The math just doesn't add up," Mr. Wendroth said.

Real-estate agents say unless people have to sell their homes due to life events like job relocations or divorces, they are staying put. Almost 70% of households with mortgages have rates below 4%, and they are reluctant to trade in a low mortgage rate for a higher one on a new home.

Home prices so far haven't dropped sharply. Prices have slid from their springtime peaks, but they are still above year-ago levels, largely because the supply of homes for sale remains lower than normal for this time of year.

Taylor and Teri Abbett, who have three daughters, looked in 2020 and 2021 for a bigger house to buy in the Pittsburgh area. They lost out on about four offers.

Earlier this year, with interest rates climbing, the Abbetts gave up and decided to stick with their current mortgage, which has an interest rate below 3%, Mr. Abbett said.

"If [home prices] are still inflated and you're having to pay a higher interest rate, then it's sort of a no-brainer to step back and see what happens," he said.

The relatively low inventory is one reason the current plunge in housing activity looks different from the subprime crisis of 2007, which caused years of home-price declines and millions of foreclosures, triggering a global financial crisis that rippled through the rest of the economy.

An impending downturn could look more like the piercing but swift decline in activity recorded in the early 1980s, when the Fed raised rates to double-digits to address very high inflation, said Doug Duncan, chief economist at Fannie Mae.

"People simply stopped transacting," he said. "As soon as the Fed got control of inflation and started working it down, you saw transactions start to pick up."

Home prices stopped increasing after the Fed jacked up interest rates in 1979, but prices and sales picked up again in 1983 after the Fed slowed its aggressive rate increases.

Fannie Mae is forecasting that home prices will fall 1.5% next year and 1.4% in 2024.

Others take a more negative view, though most forecasters expect the current housing downturn to be shorter than the prolonged slump following the subprime crisis. Real-estate research and advisory firm Zelman & Associates, a unit of Walker & Dunlop Inc., expects home prices to fall 12% from their peak a few months ago through late 2024, before starting to rebound. John Burns Real Estate Consulting expects prices to fall 20% peak-to-trough and also expects the low point near the end of 2024.

## Healthier lending

Homeowners have more equity in their homes than they did ahead of the last downturn, and tighter lending standards since then mean they're unlikely to default as long as their incomes don't drop suddenly.

The homeowners most at risk are those who bought homes when prices were near their peak. About 8% of homes bought with mortgages in 2022 were underwater as of September, according to mortgage-data firm Black Knight Inc.

"If you bought at the peak and you put very little money down—yeah, you're in some trouble," said Fed governor Christopher Waller at a discussion hosted by UBS in Sydney last month. But for many homeowners who bought in 2020 or earlier, their homes would still be worth far more than they paid, even if prices fell 15%, he said.

Recently, the number of homes for sale has increased as homes sit on the market longer. In the four weeks ended Nov. 27, the number of active listings on the market rose 12.9% from a year earlier, according to Redfin, the real-estate brokerage. But the new listings of homes for sale in that period fell 21% from a year earlier, and supply remains lower than normal.

"What's stunning is that price declines are occurring without a lot of excess supply," said Diane Swonk, chief economist at KPMG. "It's all about affordability."

Ms. Swonk said she fears that falling home prices could kick off a vicious cycle, particularly if the economy enters a recession and job losses rise. As home values decline, consumers crimp their spending because they feel less wealthy.

While many buyers and sellers are waiting to see where the market will go, home builders need to keep selling homes. Builders increased production in recent years to meet demand, and they have a large backlog of homes still under construction.

About 37% of builders surveyed by the National Association of Home Builders said they cut prices in November, and almost 60% of builders said they used incentives to attract buyers, such as paying lenders to reduce buyers' mortgage rates.

In the Denver area, real-estate agents are being offered generous commissions and bonuses "from builders who six months ago would not talk to a real-estate broker," said Lou Barnes, a third-generation mortgage banker in Boulder, Colo.

When home prices start to fall, said Phillippe Lord, chief executive of Scottsdale, Ariz.-based builder Meritage Homes Corp., "buyers are hesitant until they are confident that they've sort of reached bottom."

Mr. Lord said he expects meaningful price declines in some markets, especially in the West. Meritage has cut its prices in some markets, and its cancellation rate rose to 30% in the third quarter, up from 13% the prior quarter.

Some of the housing markets that posted the strongest home-price growth in recent years are leveling off the fastest. In the four weeks ended Nov. 27, pending home sales fell the most year-over-year in Las Vegas; Phoenix; Austin, Texas; Jacksonville, Fla.; and Sacramento, Calif., according to Redfin.

In Sacramento, which became a major destination for people relocating from the Bay Area during the pandemic, median single-family home-sale prices climbed from $400,000 in March 2020 to a peak of $560,000 in June 2022, according to the Sacramento Association of Realtors. By October, the median price had dropped to $510,000.

"We may have further to go, but I just can't see us going back to the pre-pandemic $400,000," said Erin Stumpf, who has been a real-estate agent in Sacramento since 2005. "I have a lot of buyers right now that I think are waiting for the first of the year."

Many prospective buyers can still qualify for loans at current interest rates, but they are afraid to buy when prices are falling and mortgage rates are volatile, said Sheryl Palmer, chief executive of Scottsdale-based builder Taylor Morrison Home Corp.

"Our buyers can afford to buy," she said. "So much of this is sentiment, and fear, and trying to understand where things are going."

# PERSONAL JOURNAL.

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# Seat Savers Spark Debate on Southwest

Airline says system works, but lack of assigned spots and more ways to jump the line can lead to drama

FROM TOP: DANIEL SLIM/AFP/GETTY IMAGES; ILLUSTRATION BY DOMINIC BUGATTO

CARRY ON
DAWN GILBERTSON

Taylor Swift mentioned it in a graduation speech. United Airlines launched an ad campaign around it. And first-time passengers are so flummoxed by it that there are online tutorials.

Southwest Airlines famously doesn't assign seats.

The Dallas-based carrier, which handles more domestic passengers than any other U.S. airline, has a boarding and open-seating policy that stands alone in the annals of airline awkwardness. Travelers are free to pick any empty seat when they board. Boarding order is determined by several factors, including ticket type, frequent-flier status and time of online check-in.

**$15**

Starting price, one way, passengers pay for early boarding

The quest to nab a good seat on Southwest has long spawned a crowd of people hoping to preboard, seat-saving and gimmicks to keep passengers from sitting in your row. The stakes have only increased as Southwest has offered more ways to cut the line for a fee.

Fresh off the night shift in the intensive-care unit, Dallas nurse Maddie Leimbach was desperate for a window seat and a nap on her flight to Phoenix the morning after Thanksgiving. She knew it was a long shot given her position in the C group, the last to board.

During boarding, she noticed a family seated in aisles across from each other, taking up six seats. The small passenger in one of the window seats next to two school-age boys didn't look right. The boys kept their eyes down, but the parents across the aisle looked guilty and quickly fessed up, she says. The window seat was occupied by two stacked backpacks covered in a zippered hooded sweatshirt. The parents told the boys to let Ms. Leimbach have the seat.

"They just slouched it so strategically," she says.

Southwest says that its boarding approach is manageable and that there are no plans to switch to assigned seats. (The airline is experimenting with allowing families on the plane first in Atlanta to speed up boarding.)

"This is not a religious belief," Andrew Watterson, Southwest's chief operating officer, says of open seating. "It's a business decision based upon what customers tell us. And right now each time we ask, customers tell us, 'We prefer it this way.' If customers tell us they want it differently, we'll change it like that."

United's ad campaign, called Not Group C, launched in a few key cities where the airlines compete. It offers to call Southwest passengers to remind them to check in exactly 24 hours before their flight to avoid Southwest's last boarding group, the dreaded C group. A United representative says 8,000 people have signed up. A Southwest spokesman calls the campaign "a great courtesy they're extending."

Seat-saving is the hot-button issue for some Southwest frequent fliers and those passengers who pay early-boarding fees starting at $15 a person one way. Passengers near the front of the boarding line save seats for family members or colleagues farther back in line. On a Southwest flight a few months ago, a passenger sat in the window seat in my row and plopped items on three other nearby seats for the rest of his family.

Abby Hopper flies several times a month for her job as a Washington, D.C., lobbyist and has a favorite seat on Southwest: the exit-row window seat with no seat in front of it, a prized spot with endless legroom. Ms. Hopper has the highest-tier frequent-flier status on Southwest, which comes with priority boarding.

On Ms. Hopper's flight to New Orleans on Friday, her boarding position was A16. That is generally the best position a passenger can get without buying the airline's priciest ticket or paying last-minute for upgraded boarding, which starts at $30 one way.

There was nobody in the seat when she approached the row, but it was covered by a coat. She says she asked the woman in the aisle seat if the seat was taken. The passenger said she was saving it for her friend. Ms. Hopper said she would take the seat, and things got ugly quickly. She looked to the flight attendant for assistance but was told Southwest doesn't have a policy for or against seat-saving.

"I wasn't going to get into a screaming match over a seat," she says. "But I was outraged. What's the point of the [boarding] numbers if they're not being enforced?"

Tom Ward, a YouTube and podcast host who lives in Pasadena, Calif., says he was turned away from an exit-row seat on a Southwest flight earlier this year because a woman was saving three rows of seats for her family. He had early boarding from his status in the airline's frequent-flier program.

He calls such passengers cheapskates, because they refuse to pay for early boarding for other travelers in their group, like he has done when necessary. He says he is also too anxious to be a seat saver.

"I would have to tell dozens of people not to sit in that seat," he says.

Seat savers don't bother all Southwest passengers, especially when the spot being saved is a middle seat for a partner or child.

Author Amy Alkon, who includes airline issues in her book "Good Manners for Nice People Who Sometimes Say F*ck," says passengers peeved by Southwest's boarding are triggered by a sense of unfairness.

"We have an accountant in our brain looking at when people are cheating and freeloading," she says.

Southwest has never taken a stance on seat-saving because it says it doesn't want flight attendants to become seat police.

But that is what it often comes to, says Lyn Montgomery, president of the Southwest flight attendants' union. "It's a problem, because it creates another instigator in the world of the skies that we work in," she says.

Ms. Montgomery says flight attendants try to defuse seat-saving situations and similar matters with humor when possible. That is why Southwest passengers often hear cheeky announcements during boarding advising them not to avert eye contact or pile items on the middle seat in the hopes that passengers will pass by their row in the search for a seat.

Ms. Swift and her mother had their own shtick when they flew Southwest on a radio tour early in her career, according to her New York University commencement speech in May.

She said the tour "sounds incredibly glamorous, but in reality it consisted of a rental car, motels and my mom and I pretending to have loud mother-daughter fights with each other during boarding so no one would want the empty seat between us on Southwest."

◆ Southwest to resume quarterly dividend payment........ B2

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# Why You Can't Call a Business

## Companies replace phone service with chatbots, online FAQ lists

BY RACHEL WOLFE AND ALLISON POHLE

No matter how many times you yell "representative" into the phone, you won't reach an employee at Frontier Airlines.

The budget carrier dropped its phone service option last month, leaving customers to use chat functions or social media to resolve issues. The airline joins a growing group of companies—from Breeze Airways to Resy to Facebook—that eliminate or make phone numbers extra hard for customers to find. Instead, they rely on automated or text-based customer service. Others still have operators, but are pushing more customers to use online services rather than the phone.

Consumers say those options leave them spending hours sorting through FAQ lists, sending emails to nowhere and talking to less-than-helpful chatbots to resolve issues that could have taken minutes to fix with a human on the phone.

Olivia Roach, a 26-year-old account executive at an ad agency, says she spent over five hours glued to devices trying to change her visiting mother's itinerary with Frontier last week to help her mother deal with a family emergency. When she couldn't change the trip online, she says she called Frontier. An automated message instructed her to check the customer-support section of the website. She was then disconnected.

Ms. Roach, who lives in St. Petersburg, Fla., says she, her father and brother all tried to solve the problem via chat before a representative resolved the issue on Facebook Messenger. Ms. Roach says the experience was so frustrating that her family won't fly Frontier again soon.

Frontier says the shift to digital service ensures customers get the information they need as efficiently as possible. The airline says it had found that most customers prefer communicating via digital channels and that live agent support is available 24/7.

In an investor presentation last month, the airline said voice calls are "unscalable, inefficient and expensive," and leave an "avenue for customer negotiation." While phone agents can talk to only one customer, chat agents can talk to three, the company said.

Yet as much as some people dislike customer-service calls, they are not yet sold on digital helpers. A 2,200-person Morning Consult poll conducted for The Wall Street Journal shows that about half of respondents said they had to search a company website extensively to find a number in the past year, and 41% of all respondents said no number was available. Some 43% of survey respondents said they prefer talking with a customer-service rep over the phone, while 5% prefer talking to a bot through instant messaging.

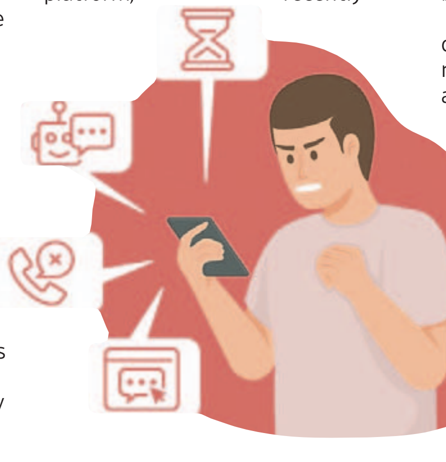
More restaurants have made the switch to online reservation and wait-list systems to save on head count, often their most expensive line item, restaurant managers say. In the U.S., 67% of reservation bookings are digital, up from 56% in 2019, according to reservation platform SevenRooms.

Taste of Texas in Houston is only taking online reservations in December, when co-owner Edd Hendee says call volume increases dramatically.

The pandemic nearly wiped out the business, Mr. Hendee says, and inflation continues to pose a threat. He says the restaurant raised wages about 25% since 2020 to retain its staff of 200.

"At today's prevailing wages, you can't pay someone to just answer questions on the phone," he says.

Pawp, a veterinary telehealth platform, recently took its public phone number off its website because owners were detailing their pets' medical issues to general customer support representatives, Chief Executive Marc Atiyeh says. "They were kind of confused about how to get in touch with a vet," Mr. Atiyeh says.



**'At today's prevailing wages, you can't pay someone to just answer questions on the phone.'**

Now, a chat assistant on the website offers answers to frequently asked questions and responses from a representative during business hours. Mr. Atiyeh says customers can use the chat to set up time to talk to someone on the phone if there is an issue that can't be worked out electronically.

David Truog, a technology and design analyst at advisory firm Forrester Research, says more chatbots are coming.

"Companies are taking this short-term view of reducing the load on employees and shunting customers off to poorly designed chatbots," Mr. Truog says.

Dan Ellis says he couldn't resolve issues with Ivy, a digital tool used at Caesars Entertainment properties in Las Vegas, when he stayed at the Flamingo Las Vegas Hotel & Casino for a conference in October. The 48-year-old program manager from Salt Lake City says he texted Ivy when the hot water twice went out in his room, and because it wasn't helpful, he didn't bother texting when he found gum and hair in the bedsheets.

When Mr. Ellis tried calling the front desk, he says he was redirected to a general call-services center. Meanwhile, the line at reception often snaked around the hotel lobby.

"It's just shouting into the void," he says.

A Caesars spokeswoman says Mr. Ellis called the front desk shortly after he texted Ivy, and a service ticket was issued for the hot water outage, which took time to resolve. She said it is Caesars' goal to exceed guest expectations and the company apologizes to Mr. Ellis for the inconvenience.

Brendon Sullivan, 44, travels frequently from Boston for his job in portfolio management for an investment company. He says extended hold times and self-service have made his customer-service experiences more painful.

He describes the process of updating his driver's license number on his Hertz profile as an endless loop between self-help portions of the rental-car company's website and live operators. Hertz still hadn't resolved the issue after a year in which Mr. Sullivan rented half a dozen cars from the company, but was able to update his profile Tuesday after The Wall Street Journal reached out.

"I recognize the travel industry is still trying to recover" from the pandemic, Mr. Sullivan says. "But it is still frustrating that you can't get the same level of service as you had before."

A Hertz spokeswoman says, "We are committed to providing excellent service and assisting our customers at our locations and through their preferred support channel."

The frustration with not being able to get in touch with a real person birthed a whole business.

As the director of operations at GetHuman, Adam Goldkamp helps maintain a free database offering the best way to get a response from more than 10,000 companies.

The site receives three million visits a month from frustrated consumers, a number that has steadily risen as companies make their contact info more difficult to find, Mr. Goldkamp says.

"It's not a good time for companies to be doing that, because users are very particular about where they are spending their money right now," he says. "It's a bad time to be making enemies."

ILLUSTRATION THE WALL STREET JOURNAL; ISTOCK (2)

PERSONAL JOURNAL.

# Online Tools Give Non-Nerds a Turn at Artificial Intelligence

By Dalvin Brown
And Ann-Marie Alcántara

Who knew artificial intelligence could be so entertaining? Case in point is ChatGPT, a free AI chatbot that has probably been all over your social feeds lately. In need of homework help? "Who was George Washington Carver?" produces an answer worthy of Wikipedia. But it can get creative, too: "Write a movie script of a taco fighting a hot dog on the beach" generates a thrilling page of dialogue, humor and action worthy of YouTube, if not quite Netflix:

*Taco: "So you think you can take me, hot dog? You're nothing but a processed meat product with no flavor."*

*Hot Dog: "You may be made of delicious, savory ingredients, taco, but I have the advantage of being able to be eaten with one hand."*

This isn't like searching Google. If you don't like the results, you can ask again, and you're likely to get a different response.

That's because ChatGPT isn't looking anything up. It's an AI trained by a massive trove of data researchers gathered from the internet and other sources through 2021. What it replies is its best approximation of the answer based on its vast—yet limited—knowledge. It's from the same company that developed the mind-boggling DALL-E 2 art AI engine and works in a similar way.

Also taking off this week is Lensa, an AI-enhanced photo-editing app for iPhone and Android that's everybody's new favorite portrait painter. It's the reason so many people in their social-media and dating-profile pictures suddenly look like anime action heroes, magical fairy princesses or the haunted subjects of oil paintings. It uses technology from DALL-E 2's competitor, the image-generating startup Stability AI. It turns uploaded headshots into beautiful, at times trippy, avatars.

**'It's almost like a brainstorming tool to get yourself thinking differently.'**

These software products represent more than cutting-edge AI—they make that AI easy for non-computer-geeks to use in their daily lives. Lensa has climbed to the top of Apple's App Store charts, becoming the No. 1 free-to-download app in the U.S. on Dec. 2. ChatGPT, released for web browsers on Nov. 30, passed one million users on Monday, according to OpenAI Chief Executive Sam Altman.

"Six months from now, you're going to see amazing things that you haven't seen today," says Oren Etzioni, founding chief executive of the Allen Institute for AI, a nonprofit organization dedicated to AI research and engineering.

Just remember, AI never behaves exactly as you'd expect. Here's what you need to know before exploring ChatGPT and Lensa.

## Chatting with ChatGPT

ChatGPT is free to use—just create an OpenAI account. Type a query into the interface, and a chatbot generates responses within seconds.

In true conversational form, you can follow up with questions in context, and it will follow along. It can admit its mistakes, refuse to answer inappropriate questions and provide responses with more personality than a standard search engine.

In response to "Who am I?" ChatGPT replied, "I cannot answer your question about who you are. Only you can know and define yourself."

It can generate essays, stories, song lyrics and scripts; solve math problems; and make detailed recommendations. Because it comes up with answers based on its training and not by searching the web, it's unaware of anything after 2021. It won't tell you about the latest release from a certain pop superstar, for instance. "I don't have any personal knowledge about Taylor Swift or her albums," ChatGPT admits.

"It's almost like a brainstorming tool to get yourself thinking differently," said Sarah Hoffman, vice president of AI and machine learning research at Fidelity Investments. She used the service to write a sample research presentation, but thought some of ChatGPT's responses seemed dated. "It could've been written five years ago."

LENSA

▲ **Reporter Dalvin Brown uploaded his photos to Lensa and these were some of the AI-generated results.**

For programmers, ChatGPT has already begun offering assistance, by surfacing hard-to-find coding solutions.

When Javi Ramirez, a 29-year-old software developer in Portugal, tossed a "complex coding problem" at the AI, his expectations were low.

"It saved me," Mr. Ramirez said. "One hour of googling was solved with just five minutes of ChatGPT." But it hasn't worked for everyone. The coding website Stack Overflow temporarily banned answers created by ChatGPT because many of the answers were incorrect.

ChatGPT's maker is at the center of the debate over AI hype vs. AI reality.

OpenAI began in 2015 as a nonprofit with backers including Elon Musk. It formed a for-profit company in 2019 and got a $1 billion investment from Microsoft Corp., which The Wall Street Journal reported in October was in talks to invest more.

While developing the technologies that underpin tools such as DALL-E 2 and ChatGPT, the group has sought a commercially viable application. Asked if ChatGPT will remain free, Mr. Altman tweeted, "we will have to monetize it somehow at some point; the compute costs are eye-watering."

## Lensa and the likes

In November, Lensa rocked social media with its Magic Avatars, user-uploaded photos reimagined in various artistic styles.

The app, from Prisma Labs, uses Stability AI's Stable Diffusion text-to-image model. Users upload 10 to 20 source photos, and the app uses them to create entirely new images. You can get 50 images for $3.99 if you sign up for the free trial of Lensa's subscription photo-editing service. Nonsubscribers can get 50 images for $7.99.

The Lensa app has been out since 2018. It's primarily for editing photos and adding effects and animation.

## AI's limitations

While these tools feel new, experts say they'll likely become as commonplace as doing a Google search or taking a selfie. Along with their popularity come concerns over privacy, misinformation and problematic lack of context.

Some users on social media said ChatGPT produced offensive comments when prompted. It can also spit out wrong answers that appear correct to untrained eyes. When asked, "How can you tell if you're wrong?" the bot replied:

"I can provide accurate and helpful information based on the data I have been trained on, but I am not able to determine my own accuracy or evaluate my own responses."

An OpenAI spokeswoman said its team of researchers plans to update the software to address user feedback. It also attaches disclaimers to responses that might be limited by its dated training material.

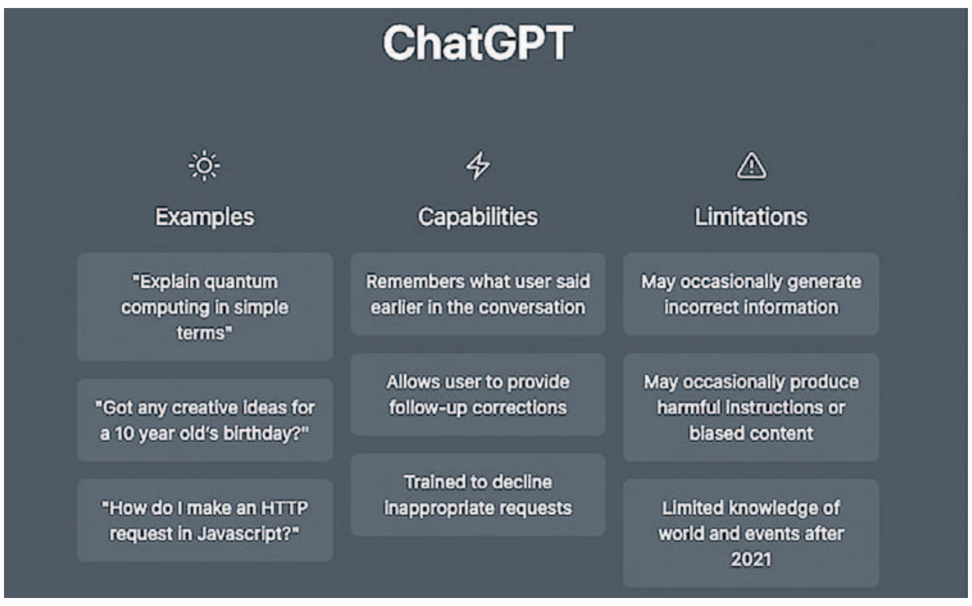
As Lensa went viral, people posted concerns about how their photos and images were being used and stored. Other viral apps in the past have raised similar concerns. After the software generates the avatars, Prisma Labs deletes the uploaded photos within 24 hours, says Andrey Usoltsev, the company's co-founder and chief executive.

"Users' images are being leveraged solely for the purpose of creating their very own avatars," he says.

Some users have said Lensa has created images that overemphasize certain parts of a woman's body or alter the eye colors and shapes of their faces to remove racially or ethnically identifiable features.

"It is true that, occasionally, AI can produce 'revealing' or sexualized pictures. This tendency is observed across all gender categories, although in different ways," said Mr. Usoltsev. "Stability AI, the creators of the model, trained it on a sizable set of unfiltered data from across the internet. Neither us nor Stability AI could consciously apply any representation biases."

"Tools like these tend to be flashy," says Jennifer King, privacy and data policy fellow at the Stanford Institute for Human-Centered Artificial Intelligence. "Sometimes, it's correct enough, but without the right guardrails in place, it opens you up to a lot of issues."




**A ChatGPT screenshot shows examples of questions to frame and responses you might see.**

# ARTS IN REVIEW

DANCE REVIEW

## ‘The Nutcracker’: The Children Charm

This year’s edition of the perennial Lincoln Center production is especially poignant and engaging

ERIN BAIANO/NYCB (2)

Scenes from NYCB’s ‘George Balanchine’s The Nutcracker,’ left and below

By Robert Greskovic

*New York*

Herr Drosselmeier—the elderly, eye-patched figure in a frock coat who plays a central part in E.T.A. Hoffmann’s 1816 narrative that underpins Tchaikovsky’s 1892 score for “The Nutcracker”—is a clockmaker by trade. In George Balanchine’s popular two-act staging, since 1954, for New York City Ballet, Drosselmeier intrigues all the children of the story, which tells the tale of a party on Christmas Eve and the magical events that take place that night and beyond. The annual run of NYCB’s “Nutcracker” was suspended altogether in 2020; last year, because of Covid-19 protocols, the children were played by student dancers 12 to 16 years old. Now, at long last, the cast’s boys and girls from NYCB’s affiliate academy, the School of American Ballet, again range in age from 8 to 13. As these eager youngsters animate the ballet’s opening scene, they bring to mind the jewel-like workings involved in Drosselmeier’s craft.

Maybe it was the absence of the School of American Ballet’s younger students from the “Nutcracker” mix last year that makes the current casts feel especially engaging and effective. The most prominent child characters are Marie, the tale’s heroine; Fritz, her naughty little brother; and Drosselmeier’s mysterious nephew, who transforms first into a nutcracker and then into a little prince. Each leaves individually affecting impressions this season.

Standouts include 8-year-old Hannon Hatchett as Fritz: Don’t miss his playing punctilious conductor for his fellow tykes with their toy instruments before annoying the party’s girls. Likewise, 11-year-old Titus Landegger, as innocent and elegant a young prince as might be imagined: Note his spontaneous expression of wonder once his breakaway nutcracker suit flies into the wings to reveal him in princely dress.

As Marie, Zofia Mendez and Caroline O’Hagan, both 10, distinctly embody their character’s delicately strong-headed personality with dancerly locomotion and poise. Each displays notable feistiness against the marauding mice, who are presented as adult-size in Balanchine’s scheme to help dramatize both Marie’s diminutive size and unshakable fortitude.

Twelve little-girl angels hover over the stage to open the second act’s “Land of Sweets.” This is the act—with its familiar series of divertissements leading to the work’s crescendo in the form of a climactic pas de deux for the Sugarplum Fairy and her Cavalier, all dominated by NYCB’s dancers—that numerous balletgoers see as the main reason for going to “The Nutcracker.” This focus on NYCB women and men prompts many, by default, to dismiss the first act, with its predominant, partying children and its nighttime battle between little soldiers and obstreperous mice, as so much filler to be endured until the formal dancing takes over.

To be sure, Balanchine readies his all-dancing second act, mostly featuring adult dancers, by capping his first with an onrushing Waltz of the Snowflakes for 16 corps de ballet women in ice-blue ballet dresses whirling in a forest of firs amid cascading confetti snow. Before the little nutcracker-turned-prince and his soulmate, Marie, finally fly off in a reindeer-pulled sleigh, another female ensemble presents itself in the form of the Waltz of the Flowers.

This second grand waltz configures around a solo dancer as Dewdrop, a featured figure leading 14 women in blossom-like tutus. In the two outings of the ballet I saw during its first weekend, sprightly Indiana Woodward darted and spun with impressive authority and aplomb. Elsewhere in this act of individual dance numbers, notable impact came from petite Baily Jones leading the Marzipan Shepherdesses, while in the Candy Canes number, a sometimes brash Roman Mejia bolted forthrightly through often turning jumps, repeatedly doing so through his hoop prop while leading eight female student dancers brandishing hoops of their own.

For the ballet’s show-stopping, formal pas de deux, which Tchaikovsky composed after being tasked to arrange “an adagio intended to create a colossal impression,” NYCB men and women have a grand showcase opportunity. Balanchine’s choreography here is filled with thrilling moves and stirring climaxes.

While the two casts that I caught each hit high points, neither negotiated the choreographic challenges with unerring authority. Andrew Veyette partnered a sometimes staid Sterling Hyltin with palpable daring, even as his solo dancing lacked finesse. As Sugarplum to Adrian Danchig-Waring’s sometimes unevenly powered Cavalier, Unity Phelan proved expansive at times and somewhat tentative at others.

Further casts for the leading dancers continue during the run. Whatever outcomes the company dancers might deliver, the poignantly effective performing of the alternating casts of SAB students, 126 all told—prepared under the watchful tutelage of Dena Abergel as children’s repertory director and her associate, Arch Higgins—promises golden rewards.

*Mr. Greskovic writes about dance for the Journal.*

EXHIBITION REVIEW

## When Rye Met Pastrami

By Joanne Kaufman

*New York*

**‘TELL ME WHAT YOU EAT,”** the 18th-century French lawyer and gastronome Jean Anthelme Brillat-Savarin famously said, “and I will tell you who you are.” “‘I’ll Have What She’s Having’: The Jewish Deli,” the terrific exhibit that opened last month at the New-York Historical Society, makes a credible case for an alternative view: “Tell me who you are, and I will tell you what you eat.”

“I’ll Have What She’s Having,” which was organized by the Skirball Cultural Center in Los Angeles, and will be on view at the Historical Society through April 2, charts the rise and evolution of the delicatessen in the U.S. Fittingly enough, babka and rugelach from Katz’s Deli were served at the press preview. Those hoping for corned beef on rye with a cheesecake chaser were on their own. Pro tip: The Pastrami Queen deli is a mere half-mile walk away; meanwhile visitors to the Historical Society can create their own (virtual) sandwich courtesy of a touch screen and an avatar of sorts: Max the deli man.

Between the last two decades of the 19th century and the first quarter of the 20th century, some three million Jews from eastern and central Europe came to the U.S. bringing with them their customs and their palates. “I’ll Have What She’s Having” is, perforce, a story of immigration and adaptation—about the shift from selling pickles out of barrels and herring off of pushcarts on New York’s Lower East Side to dishing them up behind a counter, about the shift in menu offerings from a classic Reuben (then) to braised brisket and grilled chicken Za’atar (now).

But if the deli origin story is primarily a New York story, Chicago, Los Angeles, Atlanta, Indianapolis and other urban centers feature as well, noted Laura Mart and Lara Rabinovitch, two of the Skirball curators on hand at the Historical Society press preview. Really, it’s an American tale, one told through postcards, photos, matchbooks, menus, waiters’ uniforms, carving knives, meat grinders and soda siphons.

And as much as the show is about the importance of the delicatessen in the life of many mid-20th-century Jews—families reflexively gathered in that Naugahyde cocoon to celebrate holidays, both secular and religious, to assert their identity, to connect with the world of their forefathers—well, that, too, is only part of the saga. “I’ll Have What She’s Having” also examines the role of these restaurants in pop culture—video clips include the now legendary scene from “When Harry Met Sally” that gave the exhibit its title—and in the broader culture.

“The exhibit allowed us to explore themes that are key to understanding how people of different backgrounds relate to each other,” said Ms. Mart as she led reporters on a tour of the show. “Food is a wonderful vehicle for cultural exchange,” she continued. “By eating together, we learn more about people we might not otherwise encounter, and it allows us to build mutual respect and appreciation.”

“I’ll Have What She’s Having” looks at the impact of industrialized food production on the nascent deli business, the role of delis in advertising campaigns—think: “You don’t have to be Jewish to love Levy’s real Jewish Rye”—and in political campaigns. Photos capture Nelson Rockefeller, Jerry Brown, John Lindsay and Barack Obama, eager to press the flesh with voters who have some serious eating to do.

NEW YORK HISTORICAL SOCIETY

James Reuel Smith’s ‘Louis Klepper Confectionary and Sausage Manufacturers, 45 E. Houston Street, New York’ (c. 1900)

Particularly poignant is the section on Holocaust survivors and refugees who became deli owners: Abe Lebewohl, the founder of 2nd Avenue Deli in Manhattan, and Rena Drexler, who with her husband, Harry, established the now-shuttered Drexler’s Deli in North Hollywood.

Unique to the New York version of the exhibit are costumes from “The Marvelous Mrs. Maisel,” a section of the neon sign from the Famous Dairy Restaurant on the Upper West Side, and a letter from a soldier stationed in Italy during World War II, exclaiming to his fiancée that he “had some tasty Jewish dishes just like home,” courtesy of the kosher salami sent by his mother. Mom was likely responding to the “Send a Salami to Your Boy in the Army” campaign that was created by a clever deli man.

Fortunately, “I’ll Have What She’s Having” bears no resemblance whatsoever to the overstuffed sandwiches that are the deli’s stock in trade. The exhibit is lean and compact, free of kitsch and light on schmaltzy nostalgia.

Over the past several years, death has come for many iconic delicatessens, including Fine & Schapiro on New York’s Upper West Side, Wolfie’s in Miami Beach, Billy’s in Glendale, Calif., and Loeser’s in the Bronx, some of them victims of the pandemic, others casualties of changing tastes. New ones have sprung up, among them Mile End and Frankel’s, both in Brooklyn, and USA Brooklyn Delicatessen, a knish’s throw from the late lamented Stage and Carnegie in Midtown Manhattan.

They are welcoming new customers and new foods. “The owners are curing their own pastrami, making their own bread,” said Ms. Rabinovitch of the Skirball Center, wrapping up the Historical Society preview. “There is food from other parts of the world like the former Soviet Union. It’s hummus from Israel.

“And,” she added, “It’s vegan lox with a cashew nut schmear.”

I won’t be having that.

**“I’ll Have What She’s Having”: The Jewish Deli**
New-York Historical Society, through April 2, 2023

*Ms. Kaufman writes on culture and the arts for the Journal.*

# SPORTS

# Judge, Yankees Reach $360 Million Deal

The MVP slugger will return to New York after agreeing to a nine-year contract with the team he has spent his entire career

By Lindsey Adler

American League MVP Aaron Judge has agreed to a new nine-year, $360 million contract with the New York Yankees, who persuaded their homegrown star not to defect in free agency—and increased the pressure on themselves to get back to the World Series for the first time since 2009.

Judge's agreement with New York was pending a physical as of Wednesday afternoon, but his All Rise Foundation announced on Twitter that he would be returning to the Yankees.

Judge's return to New York, first reported by MLB Network early Wednesday, comes after a season when he hit 62 home runs to break the American League record, is an expensive bid to cash in on a window of contention for the Yankees that opened in 2017. That's when Judge had a stellar rookie season that won him the American League Rookie of the Year award and saw him finish second place in MVP voting.

Judge, who was 25 years old in his rookie season, reached free agency for the first time in his career this offseason. He played at an MVP level in 2022 after turning down an eight-year, $230 million contract extension from the Yankees at the start of the regular season. The right fielder elected to take advantage of his best opportunity for leverage on the open market, and turned in the best—and now, most lucrative, walk-year season of all time.

The Yankees, the team that drafted and developed Judge, beat out his hometown San Francisco Giants to retain him for what is likely the rest of his career.

Club owner Hal Steinbrenner "spearheaded" the negotiations with Judge, general manager Brian Cashman said Wednesday morning in San Diego. Earlier this year, Cashman said he told Steinbrenner that ownership would need to be intimately involved in the efforts to retain Judge.

"We wanted to make sure that there was going to be no stone unturned, no effort that was missed in our discussions," Cashman said. "So that when Aaron Judge makes a final decision on what he wants to do with his professional career as he moves forward, that there would be nothing that was left unsaid or undone and that we can live with ourselves as we move forward."

FRANK FRANKLIN II/ASSOCIATED PRESS

Aaron Judge's return to New York comes after a season when he hit 62 home runs to break the AL record.

In the six seasons since Judge made his debut, the Yankees often spent the offseason pursuing the biggest player available. They acquired Giancarlo Stanton via trade with the Miami Marlins in 2017, after he had just won the National League MVP award. They signed Gerrit Cole to a $324 million contract for nine years after the 2019 season. Each time, the team indicated that it was go-time to reach the World Series again.

The organization has made it to three American League Championship Series, two AL Division Series, and lost a shocking AL Wild-Card game to the Red Sox. But it hasn't returned to the World Series.

Now, they've retained Judge for the duration of his 30s—the equivalent of pressing play on that familiar tune: It's go-time, again.

Judge's contract secures him the third-largest total contract in baseball history, and the highest annual average salary for a position player. The $40 million per season is currently the third-highest salary in baseball for 2023, behind Max Scherzer and Justin Verlander, who will make $43.3 million apiece. The previous average annual value record for a position player was held by the Angels' Mike Trout, whose 12-year, $426.5 million contract averages to $35.5 million per season.

In recent years, many players have strongly prioritized setting new benchmarks for average annual value on their salaries.

Judge made his bid to enter this derby with a stunning 2022 season, in which he hit 62 home runs and posted a 1.111 OPS. He didn't just earn a mega-contract, he earned the opportunity to keep earning well into his late 30s.

Contracts like Judge's have largely gone by the wayside in this era of baseball, with the information clubs have now allowing them to pay players based on projected future value rather than just what they've demonstrated in previous years. There is a certain impracticality in signing a soon-to-be 31-year-old, 6-foot-7 inch outfielder to a contract that will expire after his age-39 season. The expectation would be that his production would diminish on the backend of the contract, leaving the Yankees paying a significant amount of money to Judge when his on-field production is likely to wane.

To an extent, the Yankees' decision to sign Judge to such a large deal—especially with other mega-contracts still on their payroll ledger —harkens back to an earlier era in Yankeeland.

The broader reputation of the Yankees seems preserved in amber, an artifact representing the club's seemingly perennial World Series appearances in the mid 1990s and early 2000s. In the 13 years since their last World Series victory, the organization has become significantly more restrained, more modern, and less capable of reaching the game's biggest stage.

The organization has both changed and it hasn't. Steinbrenner has shown himself to be willing to spend significant amounts of money on club payroll, but not with the frivolousness of his late father, George. Cashman has been at the helm through it all—from the dynasty years until now, but his front office has changed and evolved beneath him significantly in the last decade.

The game has changed, and not to the Yankees' advantage: The luxury tax system is built to punish the highest-revenue clubs in the name of competitive balance—meaning that an organization like the Yankees is punished for spending on payroll at a scale that is proportionate to their earnings. The sentiment that the Yankees bought their way to their championships from 1996 to 2009 is fair and unfair: They produced an all-time core of homegrown players, then paid to both fill out the roster around them and retain the players who had spent their careers in pinstripes.

Now, the best teams in the American League are built through player development. The Houston Astros seem to have an endless supply of club-controlled players who make significant contributions at the major-league level, and the organization has signed many of them to extensions. The Tampa Bay Rays also operate a player development conveyor belt, but they trade their players away at the height of their value to maintain their prospect depth.

The Yankees have modernized a variety of their internal systems in areas such as data, player development, performance science, and biomechanics. They are working to catch up to the advantages clubs like the Astros and Rays have had in player development and acquisitions, while still being in a position to flex their financial might in the offseason to supplement their modern approach.

Judge was originally part of a homegrown group of players who were supposed to make up a significant portion of the Yankees' roster, but nearly all of the teammates he matriculated through the player development system have flamed out or been traded. The Yankees have thus spent Judge's tenure augmenting their roster to try to compete their way back to a World Series.

They didn't reach that stage when Judge was playing under club control. They had to return to their roots—a team willing to pay whatever it takes to get a player into pinstripes—to continue their quest to win with him at the helm.

## Teams Aren't Maxing Out On Subs

By Andrew Beaton

*Doha, Qatar*

**WHEN JAPAN ENTERED HALFTIME** down 1-0 to Spain in the group stage of this World Cup, coach Hajime Moriyasu knew precisely what to do: begin substituting his players far earlier than soccer orthodoxy would advise.

For Moriyasu, it was a formula that worked. After substitutes had scored both goals in Japan's comeback against Germany, they lifted the Samurai Blue over another European giant, this time Spain. Japan pulled off two epic comeback wins by substituting early and often. In both of those games, Moriyasu made his first changes at the half.

And even though Japan bowed out of this World Cup in the Round of 16, the team that comes out on top among the final eight remaining countries might just be the one that follow's Moriyasu's lead. That's because this is the World Cup with more subbing than ever.

One of the lingering changes from the pandemic that's here to stay, besides restaurants offering to-go cocktails, is increased substituting in soccer. Three changes per game was the industry standard until leagues attempted to resume play in the early days of Covid, when it jumped to five. The English Premier League made it permanent this season. This is now the first World Cup where managers are permitted five changes. The result is that teams are subbing more. But they are being too conservative.

Recent years have produced a fair bit of research that has explained why teams should replace their players more aggressively. Trailing teams that usher in fresh legs earlier are likelier to come back. More advanced analyses have even shown that subs cover more distance on the pitch, take more shots and rate better defensively.

But based on when teams actually send their players on and off, coaches tend not to fully take advantage of this opportunity.

ELSA/GETTY IMAGES

Five subs are now permitted.

At the first World Cup where a manager is allowed to make five changes, that opportunity is supersized. But the new rules here come with two catches. Coaches can make those five subs at just three different moments—to prevent games from slowing down too much, they can't swap players one-by-one at five different points in the game. There's also a caveat to that: Because it doesn't waste any additional time, making a change at halftime doesn't count as one of those three moments.

A Wall Street Journal analysis shows that the new rules have prompted teams to make substitutions earlier—but only slightly. Entering the quarterfinals in 2018, the median time for a team to put in its first sub was in the 63rd minute. This year, that's down a smidge to the 59th minute. Even more broadly, though, a look at teams' substitution patterns shows how they're failing to fully capitalize on what's newly available to them.

For one, countries are rarely exploiting the halftime loophole. Through the round of 16, teams have used at least one halftime substitute in only 29% of their games.

Teams are also just generally not using all the newfound substituting available to them. At this point in 2018, subs were maxed out almost every game, with managers leaving the third sub unused only 8.9% of the time. This World Cup, that rate has skyrocketed. The fifth sub hasn't been used in 35.4% of games. Even more staggeringly, coaches decide to leave *two* substitutes unused 10.6% of the time.

## A Matchup to Watch in England vs. France

By Joshua Robinson And Jonathan Clegg

*Doha, Qatar*

In the final minutes before France coach Didier Deschamps sends the defending World Cup champions onto the pitch against England on Saturday, he will make one last run through the tactics with his 11-man unit. His opposite number, Gareth Southgate, will be delivering the same speech to the Three Lions.

The point is to take the natural chaos of soccer and make sense of the 22 moving parts on the field. This is the rare instance when Deschamps and Southgate may want to boil it all down to two of those.

Unlike football or basketball, soccer is tough to boil down to individual matchups—unless that matchup involves France's Kylian Mbappé. He is the most dangerous player in soccer right now, and how England chooses to deal with him is likely to decide which nation advances to the World Cup semifinals.

How England chooses to deal with him is also likely to involve Kyle Walker.

"He's England's best right-back," said Poland right-back Matty Cash, who faced Mbappé in the round-of-16 and gave up two goals to him. "If anyone's going to stop him, I think Kyle Walker will be the man to stop him."

The area where Mbappé is at his most dangerous is the same one that Walker has patrolled for England at the past two major tournaments. Walker's pace and positional versatility also makes him essential to the whole way England's defense functions. If he struggles, England will have less of a chance than a pint of warm ale in a Champagne tasting contest.

That's because Mbappé has more than one way to punish teams. Though it all starts with speed—Mbappé was clocked running at 22 miles per hour against Poland—he combines it with an ability to cut onto either foot and a short backlift that allows him to uncork powerful shots in the blink of an eye. It's no coincidence that Mbappé already has 12 goals in 14 games for Paris Saint-Germain this season and five for France at this World Cup.

CARL RECINE/ACTION IMAGES/REUTERS

Manchester City's Kyle Walker, left, defends PSG's Kylian Mbappé.

"I play in the Premier League week-in, week-out and I play against top-class wingers, but he's easily the best player in the world," Cash said. "Look at his finishing. People won't just say he's quick—he's got everything."

But Walker's game is also about more than pure speed. He has developed into a specialist fullback who excels at one-on-one duels and snuffing out danger

Unlike almost every other fullback at the tournament, Walker rarely ventures beyond the halfway line. What makes him crucial for England isn't what he contributes going forward but how he holds things together at the back.

When England has the ball, he tucks in alongside the center backs—essentially transforming the team's four-man defensive line into a back three. That allows left back Luke Shaw to push forward into midfield, giving England more options in attack. But when those attacks break down, it's Walker's job to use his speed to clear up any danger if the opposing team launches a counter.

Which is exactly when Mbappé is at his most dangerous. Mbappé rarely drops back on defense, choosing instead to station himself up the field on the left side, waiting for a chance on the break.

So on Saturday, Walker is likely to find himself left one-on-one against Mbappé. A lot.

"I'm not going to roll out a red carpet for him and tell him to go score," Walker said on Wednesday.

"I think there are a handful of players on the planet that you need to consider special attention to," Southgate's assistant coach Steve Holland told reporters here. "You'd have to put Mbappé in that kind of category."

One place to look for a test case might be Manchester City. Two seasons ago, when City faced PSG in the semifinals of the Champions League, manager Pep Guardiola also felt that Walker was the antidote to Mbappé.

In the first leg in Paris, City kept a high defensive line and double covered Mbappé, using Walker and a midfield player to crowd him out. Mbappé finished the game with no shots, and made just 19 passes and 29 touches—the lowest of any player on the pitch. Mbappé missed the second leg through injury.

The following season, the two clubs met again in the Champions League group stage. This time, Mbappé scored, but City won 2-1.

Those games offered a lesson for Deschamps, too, even if anyone who has watched this World Cup already knows it. "France needs Kylian to be great," Deschamps said. "And this will always be the case."

# OPINION

## Putin Heists a Nation's Identity

WONDER LAND
*By Daniel Henninger*

A bad habit in our confused times is to communicate in words and phrases no one fully understands. Maybe that's intentional. Merriam-Webster, the dictionary publisher, chose as its 2022 word of the year "gaslighting," which has something to do with "misinformation," which itself is said to be different from "*dis*information."

I think the dictionary people got it wrong. The real word of the year is "identity."

In the U.S., personal-identity debates pitch us into the briar patch of gender self-identifiers and pronouns with no agreed-upon meaning. But the heat goes even higher in arguments over national identity.

**Americans debating who we are should look to Ukraine for what's really at risk.**

Before the midterm elections, President Joe Biden criticized Republicans for going "MAGA," a Trumpian phrase that stands for "Make America great again." MAGA and the "1619 Project" have become fighting words in a civil war over national identity that is dissolving a common understanding of what America represents. With Brexit, the Brits spent five years fighting over who they are.

National-identity debates are messy, but one country's ordeal makes the stakes crystal clear.

No nation deserves to go through what Ukraine has endured with Russia's unprovoked invasion, but unlike many wars that lose sight of why they're being waged, Ukraine's is a case study in the meaning and value of national identity.

For those of us looking on from afar, the war there has become a daily display of indiscriminate Russian bombing, leveling infrastructure, apartment buildings and hospitals. The result is a seeming infinity of rubble. We've learned that this is how Russia wages war—in Ukraine, Chechnya, northern Syria or any future theater.

SPUTNIK/VIA REUTERS

As always, urban bombing's goal is to break the opposition's will to resist, but it is about more than that in Ukraine, which was made clear in a recent Journal article about Russia's systematic looting of the Kherson Art Museum before Ukraine's military recaptured the city.

What happened at the Kherson museum has little resemblance to the Russian infantry's crude, random looting of stores and homes. It is more like the Taliban's destruction in 2001 of Afghanistan's huge sixth-century Bamiyan Buddhas, an act regarded as barbarism.

The looting of the Kherson museum had to have been planned in detail by Russian art specialists in Moscow, intellectuals who knew exactly what was in the museum and what the art represented to Ukrainians.

As described by the Journal's Ian Lovett, the removal of art began Nov. 1 under the direction of 10 civilians from Russian museums. About 10,000 of Kherson's more than 13,000 pieces were taken away, notably all paintings by Ukrainian artists. Rooms of artifacts that existed in Ukraine's territory before the Russian empire were emptied.

From day one of this war, the purpose of Vladimir Putin, and of the ideologues who surround him, has been to eliminate Ukraine's national identity. Erase a nation's art, and its past evaporates.

The Ukrainians are said to be putting much of their national heritage in hiding or temporarily moving it outside the country, an activity reminiscent of what countries did during World War II to avoid similar heists of national identity by the Nazis.

It may well be that in our time historical memory has been reduced to last week's Instagram posts, or such embarrassments as Kanye West's recent remarks on Hitler. But surely support for Ukraine from the war's earliest days by formerly placid Europe is explainable in great part to its understanding that a successful Putin destruction of Ukraine's national identity would set an ominous precedent. Jens Stoltenberg, secretary general of the North Atlantic Treaty Organization, said last week the alliance would support Ukraine for "as long as it takes" and that "we will not back down." One hopes that includes the alliance's member living in seeming security across the Atlantic.

Nationalistic sentiments have become rife in the U.S., most often on the right. They reflect a belief or fear that the traditional underpinnings of American identity and economic security are being undermined—by an influx of non-English-speaking immigrants, globalization, radical reinterpretations of U.S. history and certainly the new vocabularies of personal identity.

This is an important and worthy discussion that doesn't deserve dismissal as little more than right-wing "MAGA." But the danger in a nationalistic U.S. drift, especially in Congress, is that it could turn quickly into insularity, the impulse to cut off America from a troublesome world that just isn't worth our attention.

The short version of navel-gazing nationalism is that we have "needs at home," but what country doesn't? Last May, 11 Senate Republicans voted against a Ukraine aid bill, and in October, the House Progressive Caucus sent Mr. Biden a letter—quickly withdrawn—urging him to negotiate a settlement directly with Mr. Putin.

Ukraine is a sovereign nation with a population, though dwindling, of nearly 44 million. The terms of the struggle to preserve a nation's national character could not be clearer. If Mr. Putin outlasts the free world to prove it's possible to absorb a nation's identity, his win will leave the rest of us standing on the downslope of what we say we represent.

*Write henninger@wsj.com*

## Georgia Runoff Warnings for Both Parties

**By Karl Rove**

The 2022 midterms ended Tuesday when Sen. Raphael Warnock defeated Herschel Walker in Georgia. Democrats should be pleased. They gained governorships and a Senate seat and kept their House losses to single digits, despite expectations of a red wave. But there's a danger that Mr. Warnock's runoff victory will strengthen President Biden's misinterpretation of Democrats' better-than-expected showing. That could be a recipe for disaster for his party come 2024.

The president seems to believe that the GOP's awful midterm performance was the result of improved Democratic messaging about his administration's record. When asked after the November election what Mr. Biden would "do differently to change people's opinion of the direction of the country" as he prepares to run again, the president replied "nothing." Americans are "just finding out what we're doing," he said. "The more they know about what we're doing, the more support there is."

Since then, Mr. Biden has signaled full speed ahead for his re-election campaign and demanded a makeover of the primary calendar to smooth his renomination and discourage any Democratic opposition.

But in reality, Democrats' relative victory in the midterms came courtesy of Donald Trump, whose high-profile endorsements helped nominate freakish candidates, leading GOP-leaning voters to split their tickets. This was clear in Senate races, where candidates Mr. Trump carried to primary victories with his "full and complete endorsement" ran behind more-traditional Republicans in the fall.

In Ohio, 1 of 6 supporters of Gov. Mike DeWine cast their Senate ballots for Democrat Tim Ryan or left it blank. This is why Mr. Ryan's Trumpian opponent, J.D. Vance, won by less than 7 points, while Mr. DeWine won by almost 26. In Arizona, almost 14% of supporters of the GOP's victorious candidate for state treasurer left their ballot blank or voted for Democratic Sen. Mark Kelly, who defeated Trump-endorsed Blake Masters by 4.9 points.

**Republicans, don't keep getting seduced by Trump. Democrats, don't get cocky.**

Ticket-splitting also cost the GOP House seats as Republicans and GOP-leaning independents rejected Trump-endorsed candidates. More than 1 in 5 voters for New Hampshire Gov. Chris Sununu refused to support Trump-backed Republicans in the state's two congressional districts. Mr. Sununu won by more than 15 points, while the GOP House candidates lost by 8 and 12.

In North Carolina's First District, Mr. Trump endorsed Sandy Smith. She lost, in large part because she was accused by two previous husbands of domestic abuse. In a major county in the district, 1 of every 8 voters split their ticket, voting Democrat for House and Republican for Senate. Same in the 13th District, which rejected a young Trumpster for the House but went Republican for Senate.

In Ohio, Republicans lost two pickup opportunities when about 21% to 38% of Mr. DeWine's voters in counties in the Ninth District voted Democrat for Congress. In the 13th District, 19.1% of DeWine supporters in one major county split their ticket, and 18.5% did in another. Both GOP candidates had little but Mr. Trump's enthusiastic endorsement to recommend them. Republican-leaning voters found that insufficient.

Between 7% and 13% of GOP gubernatorial nominee Tudor Dixon's supporters in Michigan's Third District counties turned thumbs down on John Gibbs, Mr. Trump's handpicked candidate. Trump favorites in Alaska and in Washington state's Third District who stressed their ties to the former president also lost, running behind their statewide tickets.

In total, the GOP threw away at least nine House seats running nominees voters found too extreme, unqualified or closely tied to Mr. Trump and so split their tickets. Imagine how different the House would be if it was divided 231-204 in favor of Republicans rather than 222-213.

Tuesday's loss in Georgia for the GOP also came down to ticket-splitting. On Nov. 8, Mr. Walker trailed Gov. Brian Kemp by 203,130 votes, meaning nearly 1 of every 10 Georgians who supported the Republican governor refused to cast their ballot for Mr. Walker. And the last month didn't change their minds. Mr. Walker lost the runoff by nearly 100,000 votes.

This resurgence of GOP ticket-splitting provides warnings for both parties. Democrats shouldn't take the midterm result as a vote of confidence in Mr. Biden. It was a targeted rejection of Mr. Trump. If he doesn't adjust to a Republican House, the president will have two unpleasant years that sink his low approval rating still further.

For Republicans, the return of ticket splitting shows that many of the voters they need see Mr. Trump's endorsement as a warning, not an inducement. A Republican Party led by Donald Trump will lose and lose and lose.

*Mr. Rove helped organize the political-action committee American Crossroads and is author of "The Triumph of William McKinley" (Simon & Schuster, 2015).*

## My Free-Range Parents Kept Me Healthy

**By Mike Kerrigan**

My mom and dad were free-range parents before that was a thing. This occurred to me during the past year as I watched my children receive the best-in-class medical care for various injuries, including a fractured ankle for Jack, 11, and a torn ACL for Finn, 13.

Would my parents have availed themselves of the miracles of modern medicine had I needed them in my 1980s adolescence? Of course. But the first step of treatment for ailments south of bone-sticking-out was always a visit to "the box."

The box was a vintage metal first-aid kit stored under the sink in the guest bathroom. Rectangular with an incongruously jaunty handle, it looked like a cross between a steelworker's lunch pail and a nuclear scientist's briefcase. Other than dings and dents, the only marking on each egg-white broadside was a red cross with arms of equal length. It signaled both protection under the 1949 Geneva Conventions and memento mori to a rambunctious teenage boy.

**Despite a few bruises, I lived worry-free thanks to 'the box.'**

So foreboding was it that on approach, I sometimes questioned whether I really was sick. This occasionally inspired me instead to lie down, ice up or simply shake it off. And so the box delivered its first course of medicine without ever being opened.

But sometimes—for instance, after getting my bell rung by the metal rim in a game of trampoline basketball (an idea as bad as it sounds)—contemplating the box wasn't enough. It had to be opened. In these instances, it delivered its second and final, albeit limited, dose of healing.

That's because the box contained only four things: aspirin, a tube of Ben-Gay, a beige ACE bandage and a rosary. Why my parents stocked and replenished only these items, I will never know for sure. I have to conclude that in their minds, the universe of childhood maladies consisted solely of headaches, charley horses, pulled hamstrings and spiritual despondency.

Funny enough, I grew up believing these were the only bad things that could befall me. It made for a carefree childhood, one in which headaches, thigh bruises and tweaked muscles passed quickly and God was always just a conversation away.

Once I'd left for college, I realized I might need medical attention beyond aspirin, analgesic cream and bandaging. But by then the box, 100 miles away, had done its job. And I still pray the rosary. Perhaps my parents were on to something.

*Mr. Kerrigan is an attorney in Charlotte, N.C.*

**BOOKSHELF** | By Sam Kean

## Fraught Forensics

### The Forever Witness

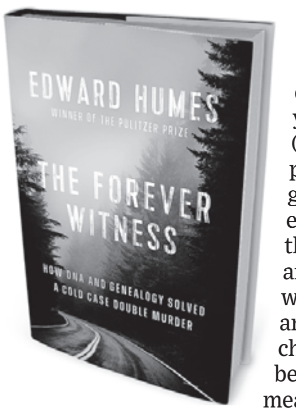
**By Edward Humes**
*(Dutton, 372 pages, $28)*

In November 1987, a scavenger searching for bottles found the body of a half-naked woman near a rural road north of Seattle. Days later, beneath a bridge 60 miles away, a hunter found a dead man, bludgeoned with rocks and asphyxiated by a pack of cigarettes shoved down his throat. Police identified the bodies as Tanya Van Cuylenborg, 18, and her boyfriend Jay Cook, 20.

A week earlier, the couple had driven down from Canada on an errand and vanished. The police had zero witnesses and little physical evidence they could tie to a suspect. They did have one clue: semen on Tanya's pants, which yielded a DNA sequence. By itself, however, that sequence meant little: Because the killer's DNA didn't appear in any crime databases, the police couldn't match it to anyone. The case quickly went cold, leaving not only local law enforcement but the FBI, the Mounties and Interpol all stumped.

That's the backdrop to Edward Humes's thought-provoking true-crime thriller, "The Forever Witness," which details how the police finally nabbed the alleged killer. More important, the book explores why the tool that broke the case open, genetic genealogy, has proven so controversial in detective work—and why the rest of us should (maybe) fear it as well.

Mr. Humes's account of the killings and their aftermath is achingly sad; while the narrative does wander sometimes, all the characters are drawn compellingly, with vivid details.




Mr. Humes even pulls off a difficult balancing act with the suspect who emerges, truck driver William Talbott, making you sympathize at one point (when he loses a beloved grandpa) and cringe the next (when he gropes his sister). Talbott was estranged from his family during the 1987 killings, but reconnected afterward and became, for a while at least, a devoted brother and uncle. "The timing of this sea change," Mr. Humes notes, "would be beyond chilling. For it would mean brutally beating and murdering Jay Cook, then raping and executing Tanya Van Cuylenborg, served as the prelude, if not the catalyst, for the best times of William Earl Talbott II's life." (After an initial conviction in 2019, Talbott's case remains unsettled on appeal.)

However well told, though, the story probably wouldn't merit book-level treatment if not for how the police snared Talbott. As originally conceived, DNA forensics required police officers to match a specific genetic sequence from a piece of evidence to a specific person in a database. If the search came up empty, the case went cold. But genetic genealogy casts a wider net: Open public databases like GEDmatch, where people upload DNA for genealogical purposes, allow cold-case detectives and genealogists to find people with merely similar DNA—relatives. Based on the percentage of DNA overlap, you can tell whether the person who pops up is the killer's sibling or uncle or third cousin. From there, you use traditional genealogy (obituaries, census records, birth certificates) to piece together a family tree and find the likely killer's name.

This method of drawing a web around a killer first made headlines in the Golden State Killer case in April 2018. Strikingly, though, at the time the police portrayed the Golden State case as a "moonshot"—the product of months of painstaking work undertaken only out of desperation. Such an effort might never be duplicated, the thinking went.

As Mr. Humes notes, the Cook-Van Cuylenborg case exploded that idea. In May 2018, the cold-case detective working the murders in Washington state, Jim Scharf, chatted with a genetics company about finding the unknown killer's relatives. The CEO said they'd try to have a suspect in four days. Mr. Scharf chuckled. After 31 years, he didn't expect a quick fix. As it turned it, naming a suspect didn't take four days. A woman sitting on her couch in sweatpants found Talbott in two hours.

**A breakthrough in a decades-old cold case raises questions about genetic genealogy and present-day sleuthing capabilities.**

That woman was CeCe Moore, a onetime TV-commercial actress who became obsessed with genealogy after constructing a family tree for her niece; she eventually quit acting to pursue genealogy full time. Ms. Moore was not involved with the Golden State case, but more than anyone else she realized the potential power of genetic genealogy not only for identifying criminals but for identifying nameless victims. After fingering Talbott, Ms. Moore solved four more cold cases in five weeks, cases police had spent 126 collective years working. By September 2021, she'd identified 175 criminal suspects and John and Jane Does.

These were staggering results, which helped dozens of victims' families heal. So how did the genetic-genealogy community react to Ms. Moore's sleuthing? Many were outraged.

The protests sprang from a commitment to absolute privacy. It's a knotty problem: Ms. Moore and the police conducted the genealogy searches without warrants or court orders. In short, they were trawling through people's DNA—perhaps the single most private thing about them—without permission, using the DNA in ways the people it came from hadn't consented to. That's discomfiting—especially because such genetic information can also expose affairs, secret adoptions, and other dark secrets. This is all the more fraught because the police officers using the information often have no scientific training and have easily jumped to wrong conclusions in some cases.

Then again, opposing genetic detective work means, in effect, putting up hurdles to solving violent crimes—and not only in cold cases. Mr. Humes details the story of a man who raped a 79-year-old Utah woman in 2018. Police feared he'd strike again and begged Ms. Moore to find him. The case proved tougher to crack than Talbott's: Ms. Moore spent three 18-hour days on her laptop. But she hunted him down and got the guy off the street. In cases like this, should absolute genetic privacy, even for millions of people, outweigh clear and present danger?

Asking whether you favor using genetic genealogy in police work is like asking if you favor getting older. It's happening no matter what; it's more a matter of dealing with it. "The Forever Witness" doesn't provide definitive answers, or even try to. As Mr. Humes notes, "the future is promising, frightening, and murky." But the book raises urgent questions of balancing public and private good that we'll likely be dealing with as long as the title implies.

*Mr. Kean is the author, most recently, of "The Icepick Surgeon: Murder, Fraud, Sabotage, Piracy, and Other Dastardly Deeds Perpetrated in the Name of Science."*

# OPINION

## REVIEW & OUTLOOK

### The Pentagon Goes to Climate War

The war in Ukraine is draining U.S. arms stockpiles while geopolitical risks grow. Yet the Biden Administration is worried about—you can't make this up—the climate impact of U.S. weapons and wants to impose costly green mandates on federal contractors.

**Biden's new mandate on contractors adds green politics to weapons.**

A little-noticed rule-making proposed by the Department of Defense, NASA and the General Services Administration last month would require federal contractors to disclose and reduce their CO2 emissions as well as climate financial risks. The rule would cover 5,766 contractors that have received at least $7.5 million from the feds in the prior year.

Smaller contractors would have to publicly report their so-called Scope 1 and 2 emissions—i.e., those they generate at their facilities and from the electricity and heating they use. Firms with larger contracts would also have to tabulate their upstream and downstream Scope 3 emissions, including those from customers, suppliers and products used in the field.

For example, weapons manufacturers would have to quantify and disclose the amount of CO2 generated from their own facilities; manufacturers that produce steel, computer chips and motors used in their weapons; propellants and fuel; and even munition storage areas. It's unclear if CO2 emissions will influence procurement decisions.

Large contractors would also have to publish an annual climate disclosure and develop "science-based targets" to reduce greenhouse gas emissions in alignment with the goals of the 2015 Paris agreement. That means contractors will have to aim to zero out emissions and possibly require their contractors to do so.

Will Lockheed Martin and Raytheon Technologies have to redesign weapons systems and aircraft to be powered by lithium-ion batteries? China mines and processes the critical minerals used in batteries and other green technologies that will be required to meet these "science-based targets."

The proposed rule would also apply to non-defense contractors, including pharmaceutical, shipping and tech companies, though it curiously exempts universities, nonprofit research institutions and state and local governments. These exemptions are a concession that the rule imposes costly burdens.

But the very point of the rule is to force CO2 emissions reductions across the private economy by leveraging $650 billion in annual federal contracts. By covering Scope 3 emissions, the rule would sweep in tens of thousands of non-federal contractors, including many small businesses.

"Public procurement can shift markets, drive innovation, and be a catalyst for adoption of new norms and global standards," the rule-making says. The climate conditions on contractors "will give visibility to major annual sources of GHG emissions and climate risks throughout the Federal supply chain and could, in turn, provide insights into the entire U.S. economy."

In other words, this is a back door for the Administration to force businesses across the economy to report and reduce their CO2 emissions. It goes even further than the Securities and Exchange Commission's proposed rule requiring publicly traded companies to report Scope 1 and Scope 2 emissions.

The rule-making claims that federal contractors will benefit from climate mandates by "increasing senior management attention and funding for investing in GHG reduction projects." Great. As the U.S. military faces strained budgets and growing threats, climate will be a costly new priority in national defense. The People's Liberation Army must be dumbfounded by its good luck.

### 'Jim Crow 2.0' Dies Again in Georgia

Whatever happened to "Jim Crow 2.0"? That was President Biden's slander against Georgia's new voting law, yet Democratic Sen. Raphael Warnock won a solid runoff victory Tuesday and a six-year term, with turnout that was hardly muted. Don't expect any apologies. Mr. Warnock is saying his win only proves Georgians can beat voter suppression, so it's an unfalsifiable claim.

**Herschel Walker's loss is Donald Trump's final 2022 gift to the GOP.**

Herschel Walker lost by nearly three points, as of the latest data, after trailing on Nov. 8 by only one point. "There's no excuses in life," Mr. Walker manfully conceded. "And I'm not going to make any excuses now, because we put up one heck of a fight." Good for him, especially since Donald Trump will probably have enough bad excuses to go around.

Mr. Trump helped to clear the GOP primary field for Mr. Walker. "Wouldn't it be fantastic if the legendary Herschel Walker ran for the United States Senate in Georgia?" Mr. Trump said in March 2021. "He would be unstoppable." Mr. Walker had no serious primary opposition, but he was unvetted and inexperienced, and Democrats dug up and unloaded truckloads of unflattering personal history.

Mr. Trump is now 0-3 in Georgia Senate races, counting the two 2021 runoffs that he sabotaged, plus Mr. Walker's loss. The former President went ballistic this summer after Mitch McConnell said candidate quality matters, but the GOP Senate leader was obviously right and vindicated on Election Day.

A 51-49 Senate will make life far easier for Democrats over the next two years. No single Democrat will be able to block a Biden nominee, and Democrats will now have a majority on every committee. Republicans will have one more seat to overcome as they try to retake the Senate.

Some Republicans are blaming GOP failures in mail and early voting, and as long as that's the law the GOP will have to play by those rules. Early and mail voters in the Georgia runoff were 52% registered Democrats, to 39% Republicans, per a TargetSmart model cited by NBC News. That's a huge deficit to make up on Election Day, especially if it rains.

But mail-voting weaknesses didn't stop Georgia Gov. Brian Kemp from winning re-election on Nov. 8 by 7.5 percentage points. And organizing failures shouldn't obscure that the biggest lesson of the 2022 midterms is that Mr. Trump picks losers. Republicans clearly could have regained the Senate this year, but Mr. Trump's endorsed candidates lost in almost every swing state. J.D. Vance won Ohio, but only with the help of $32 million in media advertising from a Super Pac tied to Mr. McConnell.

The evidence is overwhelming over the last three election cycles that Mr. Trump and the crazy parts of Trumpism alienate suburban voters and divide the GOP. Denying that is denying reality and will guarantee more needless Republican losses in 2024.

### Xi Jinping's Great Covid 'Reopening'

Xi Jinping bowed to the inevitable on Wednesday as Beijing announced a significant easing of its disastrous zero-Covid policies. President Xi will hope this calms public discontent that had become the greatest threat to Communist Party rule in three decades, but it may only partly solve the country's Covid problems.

**A tactical retreat still leaves public-health and economic uncertainty.**

Communist Party officials won't admit that zero-Covid was a mistake. But you can see the policy turn as its propaganda arms suddenly redefine the virus from a perilous threat to a manageable health risk. On Monday the Xinhua news agency said the "most difficult period had passed" for the pandemic, citing higher vaccinations rates and the weakening capacity of the virus to cause disease.

The easing appears to be substantial given the heavy-handedness of zero-Covid over the past three years. Authorities will no longer be able to cast whole city blocks into lockdown limbo at the first hint of a positive Covid test in the neighborhood, and Chinese citizens finally are free of expensive and intrusive frequent testing as they go about their daily lives or travel domestically.

Yet the new rules merely create a Covid regime equivalent to the regulations that Western countries largely abandoned a year ago. Those who test positive may still be required to self-isolate at home—an improvement on the hospital quarantines they faced—and international travelers remain subject to quarantine requirements when they enter China. Many countries have long since abandoned the rules Beijing now is implementing because even the looser regulations proved economically and socially unworkable.

Meanwhile, China is left with the mechanisms of political and social control the Communist Party developed during the pandemic, such as the use of smartphone apps to monitor and regulate every citizen's movement. Don't imagine for a minute the Communist Party will give up those surveillance tools now that Beijing's propagandists have declared the pandemic emergency over.

As for that emergency, China is entering the great unknown. Omicron and its virus subvariants have proven more transmissible but less severe elsewhere in the world. But that was among populations with higher vaccination rates than China's with more effective vaccines and in places where many people already were exposed to earlier virus strains. Mr. Xi and his citizens—and the rest of the world—have to hope that Omicron will prove similarly mild in a country that stifled natural immunity and refused superior Western mRNA vaccines for nationalist reasons.

The message to foreign businesses is that China remains far from the status quo pre-Covid. After three years of zero-Covid, the Chinese economy now faces an indeterminate period of milder restrictions—unless there is more widespread serious illness.

Beijing's easing of zero-Covid marks a tactical retreat in the face of nationwide protests. But this is not a sign Mr. Xi has tapped some hitherto unknown liberalizing instinct. Having abandoned his effort to crush the virus, the continuing China risk concerns what he will do to redouble control over the Chinese people.

## LETTERS TO THE EDITOR

### *What Jimmy Lai's Persecutors Fear the Most*

Regarding William McGurn's "The Innocence of Jimmy Lai" (Main Street, Nov. 29): As a Christian, Jimmy Lai may know the many biblical stories of false accusations and arrests. Some victims were subjected to a fiery furnace, a lions' den, an executioner's blade, a Roman cross.

In modern times, Dietrich Bonhoeffer, Martin Luther King Jr. and Alexander Solzhenitsyn followed in their footsteps. Solzhenitsyn urged the Russian people to "never knowingly support lies!" As Mr. McGurn observes, Mr. Lai "is showing that a man can live as a free person, even in a Chinese prison, as long as he refuses to lie."

John Bunyan, author of "The Pilgrim's Progress," said, "I will stay in jail to the end of my days before I make a butchery of my conscience." So, too, Mr. Lai, a devotee to truth who may die in prison. Pray for him! Meanwhile, Hong Kong's John Lee and his Beijing overlords join the reviled ranks of Potiphar, Herod and Pilate, as well as all the modern power mongers who lived by lies and feared those who embrace freedom and truth.

Charles Eden
*Atlanta*

In "Jimmy Lai Faces Communist Justice" (op-ed, Nov. 30) Paul A. Gigot lauds the courage of Chinese dissident Jimmy Lai, who "risked everything to speak democratic truth to Communist power." Mr. Gigot notes that his fellow U.S. journalists "have it easy" because they write under protection of the First Amendment.

In the same day's paper, former Hogan Lovells lawyer Robin Keller tells of her termination, after a 44-year career, for expressing her opinion on the *Dobbs* decision ("No Dissent Allowed at Hogan Lovells," op-ed). Other lawyers in the discussion claimed they "lost their ability to breathe" after Ms. Keller mentioned disproportionately high abortion rates in the black community.

Finally, Peter Cozzens's same-day review of "The Last Hill" (Bookshelf) describes the heroism of U.S. GIs fighting from Normandy to Germany. One wonders how many troops "lost their ability to breathe" while fighting Nazis for freedoms Jimmy Lai will never have, and which the partners at Hogan Lovells so casually disregard.

Lars H. Liebeler
*McLean, Va.*

### *The Politics of Student Debt Before the Court*

When politicians are unable to find solutions to difficult issues, they often take the easy way out ("Biden's Loan Forgiveness Reckoning," Review & Outlook, Dec. 2). President Biden's loan-forgiveness program is one such example. Decades of bad decision-making, by government and students alike, and permissive rules for for-profit educational institutions, resulted in bloated tuitions and students attending schools for which they were unsuited. The resultant billions in debt both floated educational institutions and sunk the prospects of undereducated and miseducated students.

Rather than deal with the underlying issues, Mr. Biden waived the debt obligations by executive order. Any lawyer worth his salt knew this approach was legally dubious. That only Republican-led states sued to overturn the order reinforced the politics behind the move.

Once the Supreme Court invalidates the order, the usual hue and cry about the court being a tool of conservatives will begin. Rather than try to craft a legally sufficient solution, Mr. Biden will walk away from the issue blaming the court.

Joseph P. Petito
*Bethesda, Md.*

Justice Sonia Sotomayor recently questioned whether her august court could "survive the stench" of a politicized bench. Justice Elena Kagan pitched in that the legitimacy of courts are challenged when they becomes "extensions of the political process."

The expedited appeal in *Biden v. Nebraska* will present a timely check on the progressive justices' purity on the issue of political detachment. What better setting than a plainly unconstitutional assault by a feckless president going old-school politician to circumvent Congress and write a $420 billion blank check forgiving contractual debt. All this, not only in the lead up to midterm elections, but also in the wake of Mr. Biden's and Rep. Nancy Pelosi's unapologetic acknowledgments that the gambit was a violation of the Constitution's separation of powers.

So, here comes *Biden v. Nebraska*. If ever there was a case deserving of a unanimous opinion, this is it. We wait to see if Justices Sotomayor and Kagan will put politics aside and chasten this president for his abrogation of the delicate balance of federalism's separation of powers.

James Altieri
*Indian River Shores, Fla.*

### *Twitter Censorship and Intelligence Agencies*

I applaud your position and factual accuracy in "The Twitter Censorship Files" (Review & Outlook, Dec. 5), but I believe you aren't forceful enough. As a former career senior intelligence official, I am disturbed by the abuses conducted by those former intelligence officials.

Those officials (the 51 named and also the unnamed) egregiously violated one of the critical tenets of intelligence analysis as well as the standing Intelligence Community Directive, which states intelligence shall be "independent of political consideration." When we allow bias or politicization into our intelligence process, we lose all credibility, not to mention our self-respect. Simply stated: We fail in our mission.

The message the intelligence leadership must send to all our analysts, including those still in training, must be strong and unambiguous. This politicization of intelligence cannot be tolerated. All 51 officials must have their access to classified information revoked immediately.

Mark S. Chandler
*Myrtle Beach, S.C.*

In his op-ed "Twitter's Duty to Protect Free Speech" (op-ed, Dec. 6), California Rep. Ro Khanna offers us the opportunity to acknowledge his wisdom for having complained privately to Twitter about its censorship. But what about political courage? I believe that Mr. Khanna's actions are reflective of an individual who dared not upset his party's hierarchy even though he knew what it was doing was anathema to our constitutional dictum.

John Rozich
*Manning, S.C.*

### *Trump Is No Anti-Semite: Judge the Man by His Acts*

I am tired of reading the virtuous condemnations of Donald Trump's dinner with Kanye West and Nick Fuentes (Letters, Dec. 5). Yes, it was a mistake and I wish he hadn't done it and he will pay the political price for it. But for me, an actual Holocaust survivor, who remembers what it was like living under Hitler, the acts of a person are more important. By acts I mean not only symbolic ones like a lunch with somebody, but consequential ones, like accepting your daughter's conversion to Judaism and thus having Jewish grandchildren. Or by being the president who not only promised but delivered on moving the U.S. Embassy to Jerusalem, and engineering the Abraham Accords. That is far more important.

Thomas Klein
*Saratoga, Calif.*

### *A Macaroni Misdemeanor*

In your analysis of "The Microwave Pasta Tort" (Review & Outlook, Dec. 5), in which the plaintiffs complain that the cooking time Kraft allows for the preparation of its Velveeta shells is inadequate, you somehow overlook the great legal rule that should settle the case: the landmark *al dente* ruling.

Mark Halpern
*Oakland, Calif.*

Letters intended for publication should be emailed to wsj.ltrs@wsj.com. Please include your city, state and telephone number. All letters are subject to editing, and unpublished letters cannot be acknowledged.

### *Do You Trust the Pentagon?*

Holman Jenkins, Jr. reports that the Pentagon has lied to us for years regarding UFOs ("The UFO Bubble Goes Pop," Business World, Dec. 3). Why should we believe it now? If the Pentagon told me it was raining, I'd walk outside to check.

Jeffrey Hurst
*Lutz, Fla.*

### Pepper ... And Salt

THE WALL STREET JOURNAL

*"I'm a self starter, eager, ambitious and willing to work all day."*

# OPINION

## The Republican House Can Restrain Spending

By Phil Gramm
And Mike Solon

After a disappointing election, a slim House Republican majority will be the only sentry at the gate holding back an administration and Senate intent on taxing, spending, regulating and transforming the foundations of American government.

House Republicans must *govern*, which requires cobbling together the 218 votes necessary to pass appropriation bills that constrain spending and using the power of the purse to rein in Biden administration abuses of executive, regulatory and antitrust authority.

**The slender majority is the only sentry at the gate. Lawmakers have a duty to protect America's fisc.**

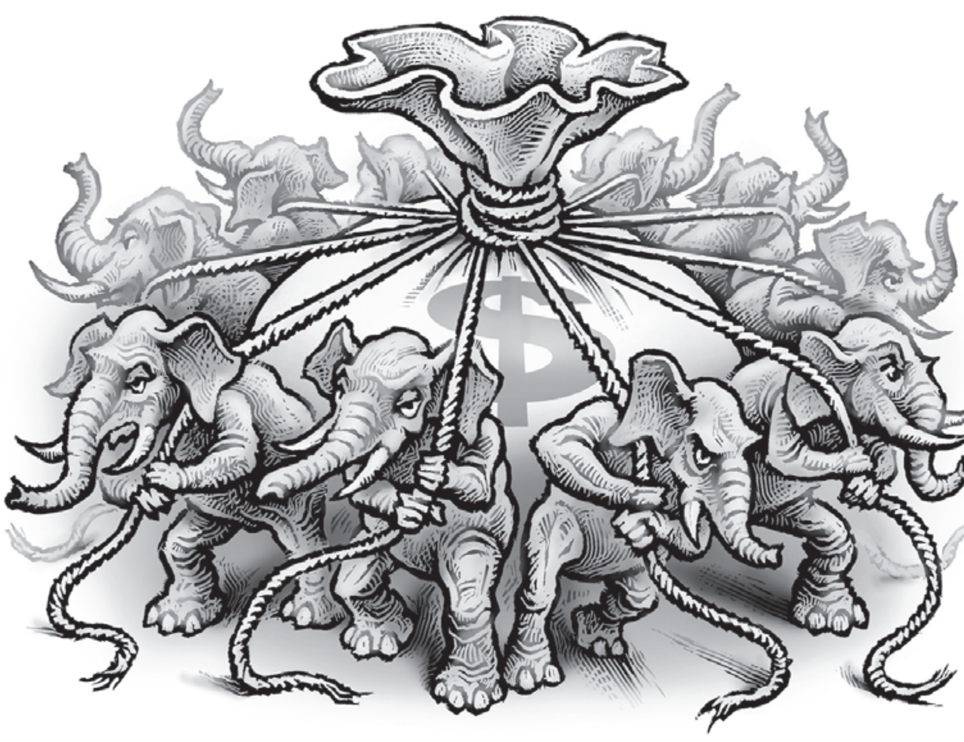
If united, Republicans can stop any new tax bill, defund any discretionary spending program and conduct broad-ranging investigations. But investigating is a double-edged sword. Unless an investigation of President Biden and his family produces significant findings, it will be portrayed by the media as a Trump-inspired vendetta. If inflation persists and the economy continues to weaken, the specter of a Republican House preoccupied with investigating the administration as stagflation afflicts the nation will be seen as fiddling while Rome burns, a charge that could bring defeat in 2024.

While any new tax proposal will be easily blocked, stopping the spending spree is where the challenge will be monumentally greater. The federal government's pandemic spending spree has generated a massive bow wave of post-pandemic spending, which if unconstrained will drown out Republican efforts to rebuild defense and make the 2017 tax cuts permanent.

The federal government is operating through mid-December under a continuing resolution that spends $1.76 trillion in fiscal 2023. That is $356 billion, or 25%, more than the pre-pandemic 2020 appropriation of $1.4 trillion. Adding entitlements and mandatory spending, including the Chips Act and the mandatory spending provisions of the so-called Inflation Reduction Act, will increase total 2023 spending to $5.9 trillion, $1.3 trillion above the pre-pandemic level.

Even after adjusting for inflation, annual post-pandemic spending is up half a trillion dollars from the pre-pandemic level. That is twice as much as the estimated cost of extending the 2017 tax cuts. Compared with pre-pandemic 2020 spending levels, inflation-adjusted nondefense discretionary spending for 2023 grows by $206 billion, while real defense spending shrinks by $33 billion. Realizing the Republican goal of spending parity between defense and nondefense discretionary programs will require wholesale budget changes.

In May, the Congressional Budget Office estimated that government spending in 2023 would be 22.5% of gross domestic product, down from its estimate of 23.8% of GDP for 2022 spending. Actual 2022 spending hit 25.1% of GDP. The CBO projections didn't include the billions of dollars in spending in the Inflation Reduction Act or the roughly $150 billion Democrats are expected to seek for an omnibus spending bill in the lame-duck session. Defense spending will be only 3% of GDP in 2023 before falling to a postwar low of 2.7% in 2032.



PHIL FOSTER

The age-old excuse for not controlling discretionary spending is that entitlements make up 62% of the total budget, and if you don't change entitlements, you don't deal with the spending problem. But nondefense discretionary spending has been bloated by the pandemic, and much of what had been discretionary spending is now mandatory because of legislative action by Democrats in Congress.

Since the 1983 bipartisan Social Security reform, no major entitlement reform has occurred that wasn't bipartisan. Democrats, including Speaker Tip O'Neill, supported entitlement reform only when discretionary spending was significantly restrained. Not only does restraining discretionary spending generate the political credibility necessary to reform entitlements, it pressures both parties into supporting entitlement reform. By winning a majority in the House, Republicans took up the mantle of governing. They can't curtail spending simply by voting against appropriation bills. The majority party must pass a funding bill or the government will shut down. Shutting the government down will only lead to being beaten into submission and allowing the spending spree to continue with bipartisan support.

If 218 Republicans can agree on spending restraints and priorities, they can defund the Internal Revenue Service inquisition and woke government, fund defense and border security, and restrict the executive excesses that hamstring the economy and drive up prices. Protesting is easy. Governing is hard, involving compromise. But if the new Republican majority can pass its own funding bills, choosing restraints on spending and appropriation riders that have broad public support, they can define the differences between the parties and win the spending debate. If the Senate and White House refuse to negotiate, *they* will be shutting the government down.

If Republicans can't contain the explosion of social spending, continued fiscal stimulus will force the Federal Reserve to implement monetary policy that will squeeze out more private investment. That will lower growth in productivity and wages and increase the national debt. While focusing on stopping inflation, funding defense and making the tax cuts permanent, Republican leaders must negotiate with each Republican member to find acceptable riders and spending changes. The process won't be pretty or pleasant, but it is what governing in a free society requires.

*Mr. Gramm is a former chairman of the Senate Banking Committee and a nonresident senior fellow at American Enterprise Institute. Mr. Solon is a partner of US Policy Metrics.*

## Pursuit of Global Power Unites China's Xi and Saudi Arabia's MBS

By Karen Elliott House

Xi Jinping and Mohammed bin Salman are meeting this week in Riyadh. At first glance, the president of China and the Saudi crown prince appear to have little in common beyond their shared conviction that America is in decline. But a closer look reveals numerous similarities, especially their assertive determination to play a dominant role in world affairs.

Mr. Xi can expect an extravagantly warm welcome from MBS, as the crown prince is known. The pomp and ceremony will boost Mr. Xi's stature back home, where he faces protests over Covid lockdowns, a stagnant economy and his assumption of an unprecedented third term as China's leader. MBS similarly benefited from Mr. Xi's warm welcome in Beijing in 2019 on the heels of the murder of Jamal Khashoggi. An aide to the crown prince says of that visit, "MBS managed Trump, but he meshed with Xi."

For MBS, everything looks rosy now. World leaders are eager to meet with him again. The Saudi economy is among the world's fastest growing this year, and the national oil company reported a 90% increase in second quarter profits. Atop all that, he's basking in the Saudi soccer team's upset victory over Argentina at the World Cup.

China and Saudi Arabia established diplomatic ties in 1990. In 2006 the late King Abdullah became the first Saudi ruler to visit Beijing, and the relationship has warmed recently as Riyadh has started to doubt the durability of its alliance with America. While the U.S. remains the kingdom's largest arms supplier, China has become its major trading partner, entirely as a result of large imports of Saudi oil. Each has invested billions in the other's country and more doubtlessly will be announced this trip.

Both leaders see themselves as symbols of proud and ancient civilizations that are superior to the West. They are deeply offended by Washington's assertion that individual liberty and human rights are universal. Mr. Xi can be confident he'll hear nothing during this visit about China's treatment of its Uyghur population, which the U.S. has labeled genocide. Nor will Mr. Xi lecture MBS on the war in Yemen.

Beyond common national interests, the two men share stylistic similarities. Both are dreamers with grandiose goals. Mr. Xi has spoken passionately of the "Chinese Dream" from the moment he ascended to power in 2012. He promises to rejuvenate his once-great civilization fully by 2049, the 100th anniversary of the Communist takeover of China.

**Both men think American decline gives them the chance to play a leading role in world affairs.**

MBS's Vision 2030 is similarly ambitious. He seeks to transform his oil-dependent nation into a technological powerhouse drawing the world's most innovative citizens to a space-age city he is building for $500 billion in the desert.

Both leaders can marshal public and private resources at their whim because their citizens are largely submissive. Confucianism, China's guiding ethical system, teaches loyalty to one's family and then the emperor. Islam, too, teaches obedience to family and, above all, to Allah. In Saudi Arabia, the king is Allah's earthly representative, and so he must be obeyed. So complete is the two men's control that each is labeled "Mr. Everything" by his citizens.

Beyond these historic precepts of obedience, both have ruthlessly eliminated opposition under the pretext of dealing with corruption. In 2017, MBS brazenly locked up scores of royal relatives and prominent citizens in a hotel on charges of hiding illicit wealth. Most were released eventually after forfeiting a collective $100 billion to the government. But many are still under house arrest, unable to leave the kingdom.

Mr. Xi has exhibited similar harshness. Over the past decade he has purged vast numbers of political rivals. With television cameras rolling in October he had his predecessor, Hu Jintao, marched out of a Communist Party conference.

Both men oversee sophisticated, pervasive internal intelligence systems. Saudis, already increasingly reluctant to speak, will do so only in the absence of cellphones. Digital currency and even more intrusive surveillance allow the Chinese government to track every move of citizens, who are assigned a "social credit" score that measures their "trustworthiness" and metes out punishments and privileges accordingly. China's internal-security budget is nearly as large as its rapidly growing defense budget.

Mr. Xi appears increasingly confident that China will one day displace the U.S. as the pre-eminent global leader, and MBS is riding high after a wave of wins. Yet both leaders face serious economic challenges, including high rates of youth unemployment in both countries. And public swagger on the red carpet is one thing. Private choices tell a more nuanced story: China's president sent his only daughter to Harvard, and the Saudi crown prince's five children study Chinese and English.

*Ms. House, a former publisher of The Wall Street Journal, is author of "On Saudi Arabia: Its People, Past, Religion, Fault Lines—and Future."*

## Who's to Blame for the High Cost of Living?

By Judy Shelton

Whose fault is it when the cost of living surges to record levels? In a Gallup poll taken just before the midterm election, Americans identified inflation as the most important problem facing the nation. Poor government leadership also was named a problem—but does that mean anyone in government will actually be held accountable?

Republicans castigate the Biden administration and congressional Democrats for reckless spending even as White House officials contend that Republican plans would make America's fiscal situation worse. But rather than work out solutions to the budget deficits and indebtedness that exacerbate inflationary pressures, Congress seems incapable of making hard political choices.

Meanwhile, the Federal Reserve has conveniently stepped into the breach—proclaiming its own guilt as the leading cause of rising prices. Beginning in August at the Jackson Hole, Wyo., annual gathering for policy makers, and continuing at both the September and November press conferences following monetary-policy committee meetings, the central bank's Chairman Jerome Powell has said: "Price stability is the responsibility of the Federal Reserve and serves as the bedrock of our economy."

It seems a gallant gesture—no matter that the bedrock has become a slippery slope. But Mr. Powell's declaration is proffered under the protective umbrella of the Fed's status as an independent government agency and one exempt from those hard political choices.

In short, the Fed's mea culpa for rising prices provides no real accountability for the public and only muddies the waters. Does it mean that Congress and the White House are absolved of responsibility for inflation? Do voters simply have to accept that the Fed has no choice but to counter the consequences of excessive government spending—particularly fiscal transfer payments—by inflicting higher interest rates on the whole economy?

Fiscal transfer payments, such as stimulus checks and expanded unemployment insurance, ignited the high inflation that leads the list of American economic concerns. According to a recent study prepared for the Fed's Board of Governors by its own economists, the buildup of household income through government transfers during the pandemic subsequently fueled spending. "We estimate that U.S. households accumulated about $2.3 trillion in savings in 2020 and through the summer of 2021," the study notes, citing "historic levels of government transfers" that included stimulus payments ($844 billion), unemployment insurance ($836 billion), and other transfer receipts ($548 billion).

The payments "enabled more households to smooth their consumption" during the negative income shock, the economists point out while also conceding that "excess savings have fueled high levels of spending for some households, which may have contributed to persistently high inflation amid constrained supply."

So we are left with a central bank determined to combat inflation by moving its benchmark interest rate to levels that will restrain economic expansion and reduce hiring—all to curb aggregate demand. "Slowing demand growth should allow supply to catch up with demand and restore the balance that will yield stable prices over time," Mr. Powell explained at a recent Brookings Institution event. "Restoring that balance is likely to require a sustained period of below-trend growth."

Seeking below-trend growth and higher unemployment to deal with the lack of goods and services in our economy may strike some as a questionable strategy for the Fed.

**Congress flails, the Fed professes responsibility, and taxpayers get stuck holding the bag.**

Even more questionable are the mechanisms used to conduct monetary policy. Despite Mr. Powell's assurances that the Fed has the necessary tools to restore price stability—defined by the Fed as 2% inflation—there is reason to doubt their efficacy.

In the years before Covid, the Fed had a hard time pushing inflation up to the 2% target rate using its primary tools: paying near-zero interest rates on reserve balances and purchasing trillions in government debt securities. Now it presumes to bring the current 7.7% inflation rate down to its 2% target rate by essentially reversing the use of those same tools: paying higher interest rates on reserve balances and shrinking its balance sheet by not replacing government debt securities that mature.

Moreover, paying high interest rates on cash balances kept at the Fed by commercial banks, in tandem with paying interest on cash parked overnight at the Fed by money-market mutual funds through reverse repurchase agreements, is proving expensive. While the Fed used to contribute substantial earnings from its portfolio holdings as "remittances" to the Treasury—some $846 billion in the last 10 years—it now is operating at a loss. Americans may begin to question why Treasury is advancing funds to the central bank to pay high rates of interest to banks and mutual funds on risk-free cash deposits—especially if it will require a "sustained period" to meet the Fed's objectives.

It's too bad that respecting the Fed's independence prevents Congress from looking more closely at this tool aimed at preventing some $5.5 trillion from entering the real economy. If Congress exercised its constitutional power to regulate the value of money, it might tell the Fed to stop paying banks and mutual funds *not* to make loans or invest capital in productive economic opportunities.

The Fed should show Congress its study on government fiscal transfers as a driver of inflation—noting that it would be easier to restore balance between demand and supply if Congress didn't pay people not to work.

But this is likely wishful thinking. Between the failings of both fiscal- and monetary-policy makers, it looks as if taxpayers will be the ones held accountable.

*Ms. Shelton, a monetary economist, is a senior fellow at the Independent Institute and author of "Money Meltdown."*

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# BUSINESS & FINANCE

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## Balwani Gets 13-Year Sentence

Prosecutors sought 15-year term for former Theranos president, Holmes boyfriend

BY HEATHER SOMERVILLE AND CHRISTOPHER WEAVER

SAN JOSE, Calif. – Theranos Inc.'s former No. 2 executive, Ramesh "Sunny" Balwani, was sentenced to nearly 13 years in prison for his involvement in an elaborate fraud scheme at the blood-testing company, marking the capstone of a yearslong saga that became synonymous with the worst of Silicon Valley culture.

Mr. Balwani's sentencing comes more than four years after the collapse of Theranos, which promised to revolutionize healthcare but peddled faulty technology to patients and investors, along the way delivering inaccurate health results and squandering hundreds of millions of dollars.

Mr. Balwani helped lead the deception as Theranos's former president and chief operating officer and a focus of one of the highest-profile white-collar cases in recent years.

Mr. Balwani's former business partner and ex-girlfriend, Theranos founder Elizabeth Holmes, was sentenced last month to 11¼ years for four counts of criminal fraud tied to her now defunct blood-testing startup. The result is an unusual white-collar criminal punishment for Mr. Balwani: being sentenced to a longer prison term than his former boss and the company chief executive, who was at the center of the fraud.

Mr. Balwani declined to make a statement when invited to before his sentencing. He also didn't testify during his trial. That differed from Ms. Holmes, who testified on her own behalf and issued a tearful apology to the judge about the harm she had caused.

The Balwani sentence marks the final chapter in a corporate scandal that erupted more than seven years ago following a series of Wall Street Journal articles that called into question Theranos's claims about its blood-testing technology.

**Mr. Balwani was sentenced to a longer prison term than his former boss.**

The reporting triggered criminal and civil investigations into the firm and led to the 2018 indictments of Ms. Holmes and Mr. Balwani on fraud and conspiracy charges. The scandal entered popular American culture, led to a bestselling book, an award-winning Hulu series and a planned movie, in addition to multiple university case studies on corporate fraud.

The once-highflying Theranos stands as a cautionary signal to Silicon Valley about the criminal risks of misleading investors and consumers about new technology. The sentencing of the top two

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## Boeing Is Set Back On Hopes For New MAX

BY ANDREW TANGEL

Federal lawmakers dealt a setback to **Boeing** Co., proposing a defense bill that didn't exempt two new 737 MAX models from a new regulatory requirement, as the plane maker had sought.

Negotiators in Congress dropped the potential waiver from the National Defense Authorization Act, an annual must-pass bill that lawmakers filed late Tuesday. The waiver's exclusion from the bill leaves Boeing fewer options during the current Congress to avoid a requirement to perform costly and time-consuming upgrades to the cockpits of its newest 737 models.

Boeing declined to comment. The company's stock declined 1.1% to $176.50 Wednesday, while major U.S. stock indexes were generally flat.

Boeing faces a Dec. 27 deadline imposed by a 2020 law, which aimed to make new aircraft safer by requiring modern

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## Carvana Shares Sink on Debt Fears

BY ALEXANDER SAEEDY AND BEN FOLDY

Used-car dealer **Carvana** Co. hired a financial adviser and the company's creditors banded together to protect themselves, according to people familiar with the matter, while the company's shares plunged on fears it is headed for a restructuring.

Carvana's stock closed down 43% to $3.85 Wednesday following reports that the company's creditors had signed cooperation agreements with each other in anticipation of a potential new capital raise.

The creditor group, including **Apollo Global Management** Inc., **Pacific Investment Management** Co. and **Ares Management** Corp., signed a three-month cooperation agreement as a defensive move to ensure they act in unison if the company attempts to borrow new debt, according to people familiar with the matter.

Carvana also hired **Moelis** & Co. as a financial adviser, tapping a top investment bank for companies facing financial headwinds, according to people familiar with the matter.

The cooperation agreement covers Carvana bondholders holding around $4 billion in debt, or around 70% of the company's total debt, and aims to block any coercive transactions that could pit creditors against each other, according to people familiar with the matter.

The bondholder deal, earlier reported by Bloomberg News, doesn't mean that a bankruptcy filing is imminent, the people said.

In addition to Moelis, Carvana is working with its legal counsel, Kirkland & Ellis LLP, to evaluate restructuring options, the people familiar with

*Please turn to page B2*

## Campbell Soup Raises Outlook

BY DEAN SEAL

**Campbell Soup** Co. boosted its outlook after sales and profit rose at double-digit rates in its fiscal first quarter as the company kept lifting prices to offset rising costs.

The soup and snack maker said Wednesday that sales jumped 15% to nearly $2.6 billion in the quarter ended Oct. 30, topping analysts' projections of $2.45 billion, according to FactSet.

The top-line growth was again driven by higher prices, though volumes, which have been shrinking as prices rise, fell 1%.

Campbell Chief Executive Mark Clouse said higher prices and productivity measures helped the company substantially mitigate pressures from rising input and supply-chain costs.

Profit rose to $297 million, or 99 cents a share, from $261 million, or 86 cents a share, a year earlier. Adjusted for restructuring costs and other one-time items, per-share earnings were $1.02, Campbell said, topping analyst projections of 88 cents.

Campbell is raising its outlook for the fiscal year in light of both the first-quarter results and improvements in its supply chain. The company now expects annual sales to climb between 7% and 9% from last year, compared with its previous guidance for growth of 4% to 6%.

Adjusted earnings, which strip out one-time items, are now projected to rise 2% to 5% during the year. Campbell, based in Camden, N.J., said in September that adjusted earnings might be flat for the year

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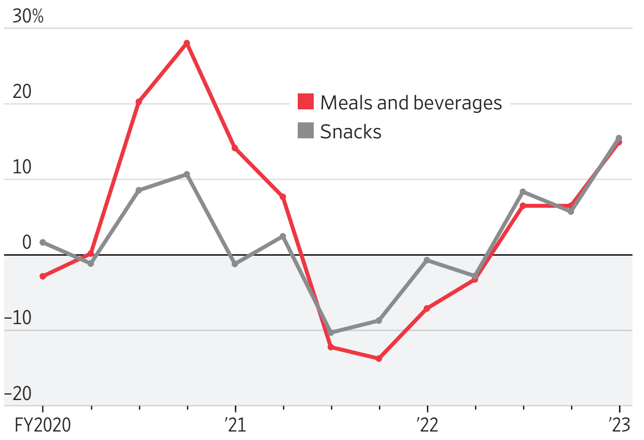
JORGE GIL/EUROPA PRESS/GETTY IMAGES

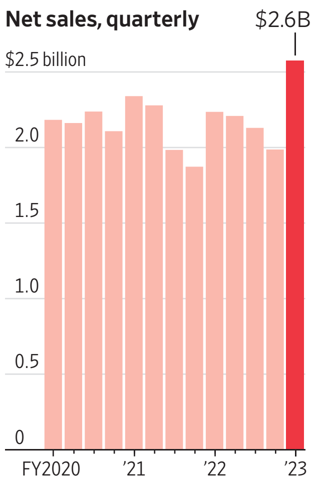
An Andy Warhol art exhibit in Spain earlier this year. Campbell said quarterly sales jumped 15%.

Campbell Soup segment revenue, change from a year earlier




Sources: the company, S&P Capital IQ

Net sales, quarterly




Note: Latest fiscal quarter ended Oct. 30

## Google To Merge Map, Waze Personnel

BY MILES KRUPPA

**Alphabet** Inc.'s Google plans to combine the team working on the mapping service Waze with the group overseeing the company's Maps product, as the search giant faces pressure to streamline operations and cut costs.

Google plans to merge Waze's more than 500 employees with the company's Geo organization, which oversees the Maps, Earth and Street View products, beginning on Friday, according to a Google spokeswoman.

Waze Chief Executive Neha Parikh will exit from her role following a transition period, the spokeswoman said. Google said it planned to maintain Waze as a stand-alone service and didn't plan to conduct any layoffs in the reorganization.

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## Times Staffers Plan One-Day Walkout

BY ALEXANDRA BRUELL

More than 1,000 **New York Times** Co. staffers vowed not to work on Thursday, its newsroom union said, marking the first strike in over 40 years at the organization.

The one-day work stoppage comes as contract negotiations between management and the members of the NewsGuild, which represents 1,450 Times staffers—including 1,270 newsroom employees—have stalled for nearly two years over pay and benefits. Both sides were still negotiating on Wednesday but both said talks ended early in the evening.

In separate memos on Wednesday evening, Chief Executive Meredith Kopit Levien and Executive Editor Joseph Kahn expressed disappointment about the walkout.

"Strikes typically happen when talks deadlock," Mr. Kahn wrote in an email to staffers. "That is not where we are today."

The Times union last week said it would go on strike Thursday if a contract deal wasn't reached by then.

By Wednesday evening, about 1,100 union members had pledged not to work Thursday and forgo pay, a NewsGuild representative said. Taking into account employees who aren't part of the union, the Times has more than 1,800 newsroom staffers around the world.

A Times spokeswoman said that despite the large share of U.S. employees planning not to work Thursday, the company was "prepared to ensure the Times continues to serve our readers without disruption."

The Times has identified editors with reporting backgrounds who can cover the news on Thursday, according to people familiar with the company. The strike won't affect the company's ability to publish a print paper, they said.

"We will produce a robust report on Thursday," Mr. Kahn wrote in his memo Wednesday evening. "But it will be harder than usual."

Staffers plan to picket the

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Palantir

The industry leader in artificial intelligence software.

| RANK | COMPANY | 2021 AI REVENUE |
|---|---|---|
| No. 1 | Palantir | $1,392M |
| No. 2 | Microsoft | $1,252M |
| No. 3 | IBM | $776M |
| No. 4 | AWS | $688M |
| No. 5 | Google | $536M |

Source: IDC, Worldwide Artificial Intelligence Platforms Software Market Shares, 2021: AI Is Being Used In More Unique Ways Than Ever (2022)

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The information presented in the table above has been compiled and analyzed by IDC using their methodology described in the Worldwide Artificial Intelligence Platforms Software Market Shares, 2021: AI Is Being Used in More Unique Ways Than Ever (2022) report contained on IDC's webstte (www.idc.com). We have not independentlyverthecl, and make no representations as to, the accuracy or completeness of the data contained in this report.

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# BUSINESS & FINANCE

## *Boeing's MAX Plan Set Back*

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cockpit-alerting systems to help pilots resolve emergencies. At the time, Boeing didn't expect the requirement would affect its newest 737 models, the shorter MAX 7 and longer MAX 10. But Federal Aviation Administration approvals have taken longer than the company had anticipated.

Without a waiver from the deadline, Boeing has said it may cancel both jets and incur financial losses.

United Airlines Holdings Inc., Delta Air Lines Inc. and Southwest Airlines Co. are among carriers that have placed significant orders for the new 737 MAX models.

Boeing's overall orders for the new jets, representing about 1,000 planes, are worth at least $50 billion in revenue after customary discounts, according to the aviation data provider Ascend by Cirium. That amount is nearly as much as the company's overall sales last year of commercial jets, military aircraft and services.

Boeing now is expected to focus its lobbying efforts on asking lawmakers to attach a waiver to a potential omnibus spending bill, according to people familiar with the matter.

The company could face greater difficulty if lawmakers instead pass a continuing resolution to maintain current government funding levels. Such measures typically don't include unrelated policy riders.

Boeing has argued to lawmakers and their staff that it will be safer for the new jets to have a common cockpit type with existing 737 MAX airplanes. Chief Executive David Calhoun has expressed confidence that Boeing would prevail in persuading lawmakers to grant an extension, saying in September: "We will use the safety argument to win it."

ELLEN M. BANNER/ASSOCIATED PRESS
**The aircraft maker wants two of its models exempted from a rule.**

Southwest CEO Bob Jordan on Wednesday predicted Boeing would prevail. "Boeing will get the extension," he said during the Dallas-based carrier's investor conference. The airline, which has an all-Boeing 737 fleet, has ordered MAX 7 jets.

Major pilot unions are split on the issue, and relatives of those who perished in a pair of 737 MAX crashes in 2018 and 2019 have been lobbying against changing the deadline.

In addition to the company's safety argument, Boeing representatives have been highlighting potential economic fallout if Boeing winds up canceling the two jets, according to people familiar with the discussions.

*—Natalie Andrews contributed to this article.*

## Southwest Resumes Quarterly Dividend

By Alison Sider

**Southwest Airlines** Co. is reinstating its quarterly dividend after more than two years, as the airline says it is confident the travel recovery will continue next year.

Southwest suspended the payment early in the Covid-19 pandemic, when carriers were bleeding cash and weren't sure when travelers would return. The government barred airlines from paying dividends or buying back shares under terms of the $54 billion in federal aid it doled out to help avert mass layoffs in the industry. The restrictions expired this past fall.

Southwest is the first major carrier to bring back its dividend. It will start making the payments of 18 cents a share—the same amount as before the pandemic—in January. The payout amounts to $428 million a year.

Chief Executive Bob Jordan said the move reflected the strong return in demand for air travel.

Airlines are once again turning a profit as passengers, especially leisure travelers, have flocked back this year despite higher fares.

In materials released ahead of Southwest's investor day Wednesday, the company reiterated that it expects the current quarter's revenue to top 2019 levels by 13% to 17%, and said fuel prices had eased.

The airline also said that it plans to boost its flying capacity by about 15% in 2023.

Shares of Southwest and other airlines tumbled on Wednesday. Southwest fell 4.71%, or $1.87, to $37.81.

The dividend payments could become a flashpoint in Southwest's already tense labor contract negotiations with pilots and other worker groups.

"We are obviously disappointed that Southwest Airlines has, once again, chosen to forgo its legacy of treating its employees well so that shareholders would ultimately be rewarded," said Capt. Casey Murray, president of the union that represents Southwest's pilots. The pilots picketed outside the company's investor day Wednesday.

Adam Carlisle, Southwest's vice president of labor relations, said the airline respects employees' right to express their views and that a demonstration by off-duty pilots wouldn't affect operations.

The airline said it is continuing negotiations with the pilots and federal mediators this week.

Other airlines also stopped buying back shares and halted dividends during the pandemic, and few have said when they will resume prepandemic practices. Budget carriers Sun Country Airlines Holdings Inc. and Allegiant Travel Co. said they would resume share buybacks. Delta Air Lines Inc. said in October that it plans to focus for now on paying down debt rather than buying back shares.

## *Campbell Raises Outlook*

*Continued from page B1*
or rise as much as 4%.

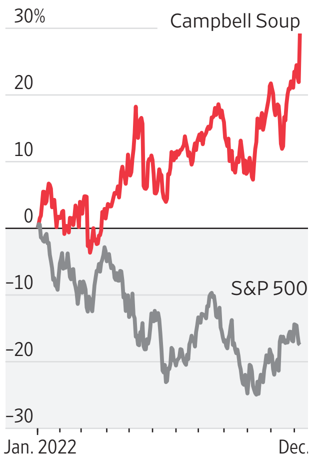
Like other food makers, the company's costs have climbed amid industrywide supply-chain constraints that arose during the pandemic and were aggravated by Russia's invasion of Ukraine. Companies have looked to pass those costs on to customers, who are adjusting their spending as inflation raises prices everywhere.

Higher food prices have generally lifted the top lines of food producers this year while cutting into volumes.

Campbell said in June that it has raised prices three times during the past year, which boosted sales in the spring quarter but dented volumes by 3%. That dynamic showed up again during the company's summer quarter as volumes slipped 4% on a 6% jump in sales.

The company's shares advanced $3.19, or 6%, to $56.18.

**Share and index performance**



Source: FactSet

JASON HENRY FOR THE WALL STREET JOURNAL
**Ramesh 'Sunny' Balwani arrived at court in San Jose, Calif., for his sentencing Wednesday for his involvement in fraud at Theranos.**

## *Theranos's Balwani Is Sentenced*

*Continued from page B1*
Theranos executives delivers an indictment of corporate leaders lying and obfuscating in pursuit of technological and financial success.

"The evidence shows he knew about the fraud," U.S. District Judge Edward Davila said ahead of reading the sentence. He called the crime at Theranos "a true flight from honest business practices."

Government prosecutors requested a 15-year sentence for Mr. Balwani. A report from a probation officer, who provides an objective recommendation for the judge's consideration, suggested a nine-year sentence.

The probation officer found that Mr. Balwani's crimes fall into the most serious offense category specified by U.S. sentencing guidelines, which carries the possibility of a life prison term.

"Mr. Balwani came to work day after day and made misrepresentations," said Assistant U.S. attorney Jeffrey Schenk. "Investors believed they were investing in a different company."

Mr. Balwani, 57 years old, was convicted of seven counts of wire fraud and conspiracy against investors in Theranos and five counts of wire fraud and conspiracy against patients who used Theranos blood tests.

His trial showed that Theranos's blood-testing devices were unreliable and often produced inaccurate results about serious health conditions, and that Mr. Balwani and Ms. Holmes lied about the company's technology, finances and business prospects.

Following his sentencing, Mr. Balwani briefly spoke quietly with members of his family, who had appeared in court to support him.

"We respectfully disagree with the outcome," said defense attorney Jeffrey Coopersmith. "We are disappointed with the result and we plan to appeal." Government prosecutors declined to comment.

Theranos's victims, Judge Davila said, include venture-capital firms Lucas Venture Group and Peer Venture Partners, and individual investors including Pat Mendenhall of U.S. Capital Advisors LLC, Richard Kovacevich, the ex-CEO of Wells Fargo & Co., and Rupert Murdoch. Mr. Murdoch, who invested $125 million in Theranos, is the executive chairman of News Corp, which owns the Journal.

"We all screwed up," said Mr. Mendenhall, an early Theranos investor who testified against Mr. Balwani. "I will never, ever invest in any company again without audited financials," he said.

Mr. Murdoch declined to comment Wednesday. After Ms. Holmes's sentencing, he said he blamed only himself for falling for her fraud. Mr. Kovacevich declined to comment.

Judge Davila declined to find that Mr. Balwani recklessly put patients at risk of death or serious bodily injury, which could have added years to his sentence.

## *Carvana Shares Plunge*

*Continued from page B1*
the matter said.

Kirkland didn't respond to a request for comment.

Lenders have been increasingly pitted against one another in contentious debt restructurings in recent years, including those of Revlon Inc., KKR & Co.-owned Envision Healthcare and Bausch Health Cos.

More companies have used flexible debt agreements to raise new debt from majorities of their lenders, sometimes to the detriment of the excluded minority.

"One of the main dynamics in high-profile restructurings over the last few years has been creditor-on-creditor violence," said Steven Hunter, chief executive at 9fin, a credit analytics platform. "It appears that the lenders want to present a united front and avoid having the company pursue a coercive type of restructuring."

Reports of the creditor pact led Wedbush Securities analyst Seth Basham to drop his price target for Carvana's stock to $1 from $9 on Wednesday. "We believe these developments [indicate] a higher likelihood of debt restructuring that could leave the equity worthless in a bankruptcy scenario...or highly diluted in a best case," Mr. Basham wrote.

Some Carvana creditors who signed the cooperation agreement have themselves been involved in contentious deals.

Ares was a member of a creditor group that lent to Revlon in 2020 against intellectual-property assets that had previously been pledged to a different group of lenders. Pimco backed a similar transaction for Envision that moved collateral away from other lenders earlier this year.

Jeffrey Brown, chief executive of **Ally Financial** Inc., which finances Carvana's inventory and purchases some of the loans it generates, said at an investor conference Tuesday that his bank was in steady contact with Carvana CEO Ernie Garcia III and his leadership team.

"Unless there was fraud, which we don't believe, Ernie runs a very good shop, very clean shop," Mr. Brown said. "We look at them as a very reasonable, responsible partner."

**'It appears that the lenders want to present a united front,' an analyst says.**

Carvana was a highflier during the pandemic when use of its online platform exploded. The company focused on growth over profitability and has only posted a single quarter of $22 million profit in the second quarter of 2021 against net losses of $781 million in the first three quarters of 2022.

A focus on market expansion led the company to acquire the physical auction business of Adesa U.S. for $2.2 billion in February, which Carvana said would increase its capacity for turning over cars for sale and widen its nationwide footprint.

But the company struggled to find the financing to close the acquisition after reporting its first-ever quarterly decline in sales and a more-than-sixfold increase in net losses compared with a year earlier.

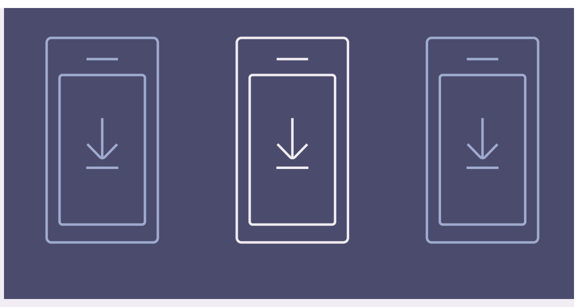
Carvana turned to Apollo, which agreed in April to purchase about half of $3.3 billion of bonds Carvana issued to buy Adesa.

The bonds had a coupon of 10.25%, a yield well above average for most junk bonds, and almost doubled Carvana's annual interest expense.

The company's bonds now trade at distressed levels, and it laid off about 1,500 people last month.

*—Alexander Gladstone, Soma Biswas and Will Feuer contributed to this article.*

**Watch a Video**
Scan this code for a video about what went wrong at Carvana.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## BUSINESS NEWS

# U.S. Judge Dismisses Zantac Lawsuit

BY CECILIA BUTINI

Shares in pharmaceutical companies **GSK** PLC and **Sanofi** SA traded higher after a U.S. judge dismissed a series of lawsuits around a heartburn treatment that the companies had marketed.

The lawsuits, which numbered in the tens of thousands, alleged that the drug, called Zantac, could cause cancer. The judge concluded Tuesday that there was no scientific evidence to support the claim that Zantac's active substance, called ranitidine, was carcinogenic.

Shares in GSK rose 7.5% in London on Wednesday, while Sanofi stock gained 6.1% in Paris. GSK and Sanofi said they welcomed the ruling and its finding that there isn't sufficient evidence to indicate Zantac raises the risk of cancer. The companies said they will keep defending lawsuits in state courts.

Sanofi and GSK, as well as Pfizer Inc. and Haleon, GSK's former consumer-health division, could all have faced liabilities from the litigation. Sanofi and GSK recalled Zantac in 2019 after the Food and Drug Administration said it had found a contaminant in the drug.

Pfizer said it hasn't sold a Zantac product in 15 years and did so for a limited amount of time. The company said it was pleased with the court's ruling.

The federal judge's ruling doesn't apply to single state courts, where more complaints are still active. Historically, many state courts tend to take their cues from multidistrict ones, according to Jefferies analysts. "Plus, economic motivation for plaintiff lawyers is likely now dented," the analysts said in a note.

Tuesday's decision could be appealed.

# Music Deal Maker Faces Discord

### Hipgnosis Songs under pressure by investors as shares fall sharply below net value

*By **Julie Steinberg** in London and **Anne Steele** in Los Angeles*

JAVIER SORIANO/AGENCE FRANCE-PRESSE/GETTY IMAGES

**Shakira is among the recording stars whose songs the investment vehicle holds the rights to.**

Investors are demanding a change of tune at **Hipgnosis Songs Fund** Ltd., the London-listed investment vehicle that owns the rights to tens of thousands of songs written by artists such as Shakira, Lindsey Buckingham and the Red Hot Chili Peppers.

Hipgnosis was founded by Merck Mercuriadis, a former pop-star manager who has called catalog copyrights recession-proof, and better than investing in oil or gold. Hit songs can yield decades of payments for their owners, as they are streamed, played on the radio, performed live or featured in advertisements.

The company thrived in an easy-money era of high stock prices and cheap debt, growing through a string of deals, while Mr. Mercuriadis attracted a big-name financial backer in **Blackstone** Inc. But the listed vehicle's stock price has tumbled in recent months.

A large discount has opened to the net asset value of its holdings, suggesting concern that Hipgnosis may have overpaid for its 65,000-plus song library. "That's people saying, 'We don't believe in your valuation right now,'" said Stifel analyst Sachin Saggar.

A spokesman for the investment adviser to the fund said: "Whilst currently, like many investment trusts, the company's share price does not fully reflect the value of the songs in the portfolio, we remain confident that over the medium term Hipgnosis Songs Fund will deliver superior shareholder returns."

Hipgnosis is scheduled to report results Thursday. In October, it announced buyback plans, and as of Monday had bought back 2 million shares. It has roughly 1.21 billion shares outstanding.

Also in October, the company refinanced its debt and said it would use swaps to fix most of its exposure to moves in interest rates—a move investors said was late, but appreciated.

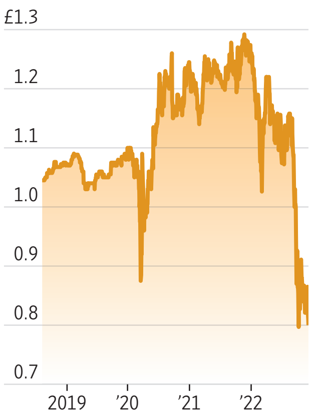
One possible way to bolster confidence in the listed company's asset value would be through striking deals such as selling an artist's full catalog, said Caspar Rock, chief investment officer at Schroders Wealth Management, a unit of Schroders PLC that owns about 7% of Hipgnosis.

To narrow the discount, investors suggest measures such as selling minority stakes in certain catalogs, giving out more information on valuation, or large buybacks.

The spokesman for the investment adviser to the fund said it adds value through active song management. It is benefiting from growth in premium streaming services and other new sources of revenue that are boosting the global music industry, he said.

When times were good, Hipgnosis tapped investors repeatedly for new equity funding to buy more songs, acquiring catalogs at what some music executives viewed as high prices.

**Hipgnosis Songs Fund share price in London**




Note: £1=$1.22
Source: FactSet

The rush of deals fed into higher sales, boosting the stock price and its ability to raise more money. From its 2018 listing onward, Hipgnosis has raised about 1.3 billion pounds in equity, equivalent to about $1.58 billion, and borrowed hundreds of millions of dollars more.

Mr. Mercuriadis has struck separate deals with Blackstone, which agreed in late 2021 to take a majority stake in Hipgnosis Song Management Ltd., which advises the listed fund. The investment adviser also manages a second private fund for Blackstone, known as Hipgnosis Songs Capital.

This year, however, Hipgnosis stock has fallen roughly 35% and now languishes below its listing price.

Stock markets more broadly have pulled back, and numerous U.K.-listed investment trusts are trading below the net value of their assets. The gap at Hipgnosis, though, is larger than at many other trusts, with the shares trading at a near 50% discount to net asset value.

The markdown stops Hipgnosis from issuing more stock to pay for acquisitions, since selling new shares would destroy value for existing shareholders.

While every song catalog is different, the company should give investors a feeling for how its portfolio is performing financially, relative to other deals in the market, said Sol Nevins, a portfolio manager for alternatives at CCLA Investment Management Ltd.

Mr. Nevins, whose firm owns about 5% of Hipgnosis, said he is eager to understand more about how some departments add value. He highlighted the synchronization team, a group that places songs in ads, films and TV shows, and the administration team, a unit that registers copyrights and collects royalties from streaming services and other licensees.

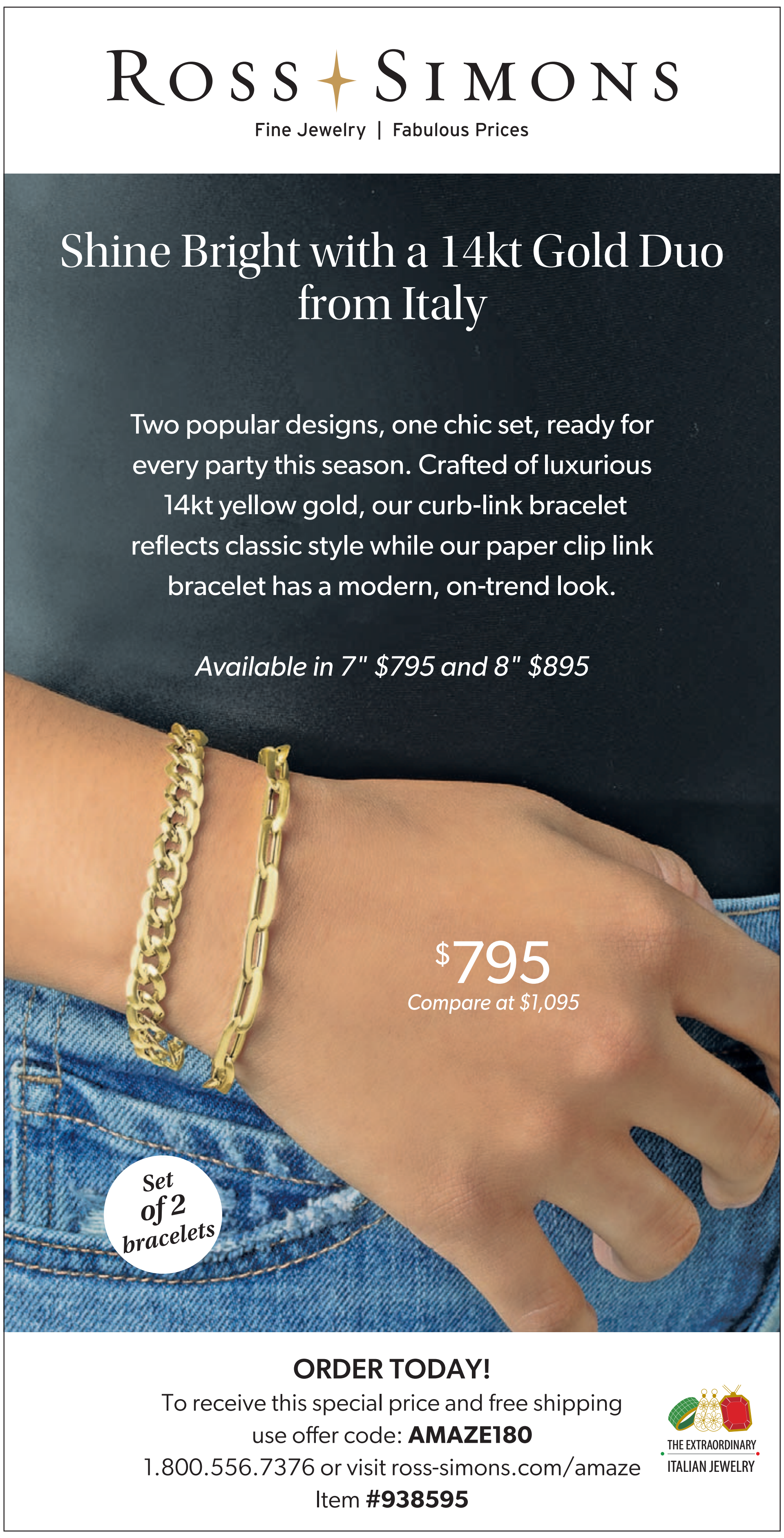
Investors said they still buy the basic premise that music royalties provide returns that aren't correlated to moves elsewhere in financial markets, and can only grow in value as how people consume music changes. Investors that spoke to The Wall Street Journal uniformly praised the catalogs that Hipgnosis has purchased and Mr. Mercuriadis's acumen.

"Music has become a utility already, it's not something you give up" even as inflation rises and people cut costs, said Flurin Grond, deputy chief investment officer at Swiss asset manager Progressive Capital Partners Ltd. Progressive owns less than 1% of the fund, said Mr. Grond.

"They should buy back 10% of the shares and see where we stand. This should not be a broken story, because the asset is very strong," Mr. Grond said.

Some investors, such as John Moore, senior investment manager at RBC Brewin Dolphin, a 5% shareholder, suggest Hipgnosis could do more with what it already owns. That could mean reaching different, younger audiences with older catalogs, he said. He pointed to a surge of interest this year in Kate Bush's 1985 song "Running Up That Hill (A Deal With God)" after it was featured in Netflix's sci-fi series "Stranger Things."

Simon Lapthorne, senior research analyst at Investec Wealth & Investment Ltd., said he didn't want Hipgnosis to shrink. "The rationale was never to be a trader of assets, it was always the intention to own these for the long term," said Mr. Lapthorne, whose firm owns a 9.5% stake.



# Washington Post Mulls Tech Sale

## Company explores options for in-house publishing tool that became a business

By Alexandra Bruell

JOSHUA ROBERTS/REUTERS

Owner Jeff Bezos has encouraged Washington Post staffers to be entrepreneurial.

Top Washington Post executives recently came to owner Jeff Bezos with a proposal. The company spent the better part of a decade turning an in-house publishing tool into a software business, with some success.

The Post's software, known as Arc XP, services the likes of pro basketball's Golden State Warriors and BP PLC. But the business, the executives said, reached a crossroads and the Post needed to explore a spinoff or sale to realize its potential, according to people familiar with the discussions. Mr. Bezos gave his blessing to explore those options, they said.

The Post embraced digital experimentation under Mr. Bezos, who acquired the company in 2013, creating an advertising-technology business and launching new apps and analytics tools. Arc is arguably the most ambitious tech project, with some 250 dedicated staffers.

For news companies that are mostly reliant on ad and subscription revenue, developing a different line of business is attractive. The Post expects Arc to generate over $200 million in annual recurring revenue by 2027, a roughly fourfold increase over its contribution now, according to a document reviewed by The Wall Street Journal. The business isn't profitable, so far.

Executives at the Post debated whether it was better to spin off Arc, which drew some interest from potential acquirers, or continue to build it in house, people familiar with deliberations said.

As with several other news organizations, the Post's traffic and subscriptions fell after a surge during the Trump presidency and the start of the pandemic. Ad revenue at the Post is expected to be down this year compared with last year, as marketers rein in spending, according to people familiar with the company's financials.

The Post is on pace to generate around $600 million in revenue in 2022 and has over 2.5 million subscribers, down from three million in January 2021, the people said. The company isn't expecting to make a profit this year, they said.

Arc existed before Mr. Bezos arrived. It was a content-management system that was meant to improve the Post's digital and print publishing functions. Shailesh Prakash, who was the Post's chief information officer and most senior technology executive, was overseeing the project.

Mr. Bezos green-lighted a plan to begin licensing the technology to other organizations. He saw the value of building a software-as-a-service business, but he warned the technology team that customer support could be a drain on resources, people familiar with the matter said. He was proved right, as some customers pushed for custom features and required a degree of hand-holding, they said.

The company initially signed up U.S. publishers including the Boston Globe and Chicago Tribune, and added TV broadcasters such as Gray Television and Cox Media Group. In 2021, the group expanded and added features meant to appeal to other big companies around the world.

Now, Arc is powering an online resale marketplace for buying suites at the Golden State Warriors' Chase Center arena. The tech business touts nearly 100 clients, some of which generate millions of revenue annually, according to people familiar with Arc's operations.

Mr. Bezos didn't green-light every idea. In recent years the Post explored a content-sharing initiative called Project Donut to provide local newsrooms with Post stories. The publishers would share revenue. Mr. Bezos rejected the idea, according to people familiar with the matter, questioning the business opportunity and value to the Post brand. He did suggest the Post explore a "Reverse Donut" concept where it featured content from other news outlets. The project never took off, they said.

Mr. Prakash wasn't always on the same page as the Post's publisher, Fred Ryan, when it came to Arc's needs and the potential appeal of a spinoff, people familiar with the situation said. Mr. Prakash at times pushed for greater investment in Arc and argued that as a stand-alone company it could do a better job recruiting top engineers, by offering them equity and giving them more freedom to work remotely than was possible at the Post, the people said.

Last year, the Post received takeover interest for Arc, including from a special-purpose acquisition company that offered more than $100 million for at least a piece of the business, according to people familiar with the offer. The Post didn't pursue a sale at that time.

The Post has committed to investing more than $50 million in Arc next year, exceeding past investments, according to people familiar with the plans for Arc.

# FTX Hires Team To Track Assets

By Alexander Gladstone

FTX's new management has hired a team of forensic investigators from advisory firm AlixPartners to help track the billions of dollars that have gone missing from the failed cryptocurrency exchange, people familiar with the matter said.

The AlixPartners team is led by Matt Jacques, a former chief accountant for the Securities and Exchange Commission's enforcement division, people familiar with the matter said. Mr. Jacques didn't respond to a request to comment.

AlixPartners will be tasked with conducting asset-tracing to identify and try to recover missing digital assets, the people said.

The firm's work will complement efforts undertaken by FTX's bankruptcy counsel Sullivan & Cromwell LLP, restructuring adviser Alvarez & Marsal and investigative firm Nardello & Co.

A lawyer for FTX said in bankruptcy court last month that a substantial amount of its assets are either missing or stolen.

FTX founder Sam Bankman-Fried told The Wall Street Journal that he couldn't explain what happened to billions of dollars sent from FTX to a related trading firm, Alameda Research.

FTX's new chief executive, John Ray, has said the firm's financial reporting is untrustworthy, and described Mr. Bankman-Fried and his colleagues as "potentially compromised." Mr. Ray also said FTX used software to conceal the misuse of customer funds.

FTX has said the individual and institutional customers affected by its collapse number in the millions.

The 50 largest creditors are owed more than $3 billion, court papers show.

# *Times Staffers Set Walkout*

*Continued from page B1*

Times building in Midtown Manhattan at 1 p.m. on Thursday, the NewsGuild said.

The negotiations have centered around pay, retirement and other benefits.

The company recently offered a choice between keeping a pension plan or selecting a new 401(k) plan, a change from its initial proposal of replacing the pension with the 401(k).

The labor tensions come as the Times is still in the process of integrating the Athletic, a sports website that it bought for $550 million this year, into its lineup of offerings. The company, like other media outlets, is also facing a challenging economic climate as advertisers pare back spending. Activist investor ValueAct Capital Partners LP recently took a significant stake in the Times, with the intention to push the media company to more aggressively market subscriber-only content.

ANGELA WEISS/AFP/GETTY IMAGES

The Times says it has editors who can cover the news.

# Wordle, Ukraine, Queen Elizabeth Led 2022 Google Searches

By Joseph De Avila

Wordle was the most-searched term around the globe in 2022, edging out terms such as World Cup, iPhone 14 and Jeffrey Dahmer.

Wordle, a once-a-day online word game, exploded in popularity at the start of the year and peaked in search results in February, according to figures compiled by Google, a division of **Alphabet** Inc. Wordle, which was acquired by the New York Times in January, was the top-searched term both in the U.S. and globally.

These search numbers offer a glimpse into what people were focused on throughout 2022, as the world entered the third year of a global pandemic, supply-chain shortages frustrated businesses and consumers and a major international conflict broke out.

"India vs England," a reference to cricket matches between the two nations, was the second-most searched term around the globe in 2022.

Searches for Ukraine came in third, followed by Queen Elizabeth II.

The top searches for public figures in 2022 were Johnny Depp, Will Smith, Amber Heard, Vladimir Putin and Chris Rock.

Mr. Depp and Ms. Heard are in a yearslong legal battle centered on accusations of domestic violence and defamation.

A Virginia jury in June found in favor of Mr. Depp for three claims of defamation while also finding in favor of Ms. Heard for one count of defamation. Mr. Smith slapped Mr. Rock during the 94th Academy Awards presentation in March after the comedian made a joke about Mr. Smith's wife, Jada Pinkett Smith.

Mr. Putin has remained in the spotlight since Russia invaded Ukraine.

# *Google To Merge Map Units*

*Continued from page B1*

Google expects the restructuring to reduce overlapping mapmaking work across the Waze and Maps products, the company said.

"Google remains deeply committed to Waze's unique brand, its beloved app and its thriving community of volunteers and users," the spokeswoman said.

Google CEO Sundar Pichai has looked for areas to improve efficiency following a slowdown in advertising growth this year. In September, Mr. Pichai said he wanted Google to become 20% more productive and indicated the company could merge teams working on overlapping products.

The activist hedge fund TCI Fund Management called on Alphabet to aggressively cut costs last month, writing in a letter to management that it thought the company's head count was too high.

Google acquired Waze in 2013 for $1.1 billion, the company's fourth-largest deal at the time. The acquisition drew scrutiny from regulators including the Federal Trade Commission, which ultimately decided not to challenge the deal.

Waze counts 151 million monthly active users of its crowdsourced mapping service, which is known for maintaining detailed traffic data. It has also worked to build an advertising business in recent years.

# Musk Twitter Takeover Saga Already Due to Become Book

By Jeffrey A. Trachtenberg

Ben Mezrich has a deal to write 'Breaking Twitter,' to be published by a unit of Hachette Book Group.

SANTIAGO FELIPE/GETTY IMAGES

Elon Musk is just weeks into his ownership of Twitter—yet a new book about the billionaire's takeover of the social platform is already in the works.

"Breaking Twitter" is expected to be published next fall by Grand Central Publishing, a unit of **Lagardère** SCA's Hachette Book Group.

The deal is the latest example of how quickly books about current events—from the 2021 saga with GameStop to the 2018 Thai boys cave rescue—are pitched and sold in recent years. That growth is fueled in part by streaming services' appetite for original content, publishing executives said.

"Moving fast is extremely important," the book's author, Ben Mezrich, said in an interview. "If the whole world is excited by something, you want to be a part of the conversation."

Mr. Mezrich—who said he has published 25 books so far, including the one that was the basis for the movie "The Social Network"—said he has never taken more than six months to write a book and tends to focus on topics that he thinks have movie potential.

"There's so much interest that books are being sold as the stories are developing," said Karyn Marcus, executive editor at Grand Central Publishing, who will edit Mr. Mezrich's "Breaking Twitter." Even if the Twitter story isn't complete by the time Mr. Mezrich is finished with his manuscript, there will be enough compelling developments and decisive moves for readers to be interested, she said.

Mr. Musk offered to buy Twitter in April and gained control of the company in late October.

"Elon Musk is one of the most complex characters of our time," Mr. Mezrich said. He said his coming book would cover "the culture clash between the right and the left, but also about what free speech means."

Mr. Mezrich has plenty of competition.

Walter Isaacson, author of bestselling biographies about Steve Jobs, Benjamin Franklin and Leonardo da Vinci, said he is working on a biography of Mr. Musk. The book will be published by Paramount Global's Simon & Schuster, said Amanda Urban, his literary agent.

Bloomberg technology reporter Kurt Wagner, who earlier this year sold a biography of Twitter co-founder Jack Dorsey to Simon & Schuster's Atria Books, said in an interview that his book project has evolved since Mr. Musk's takeover of Twitter.

"I definitely plan to report extensively on the Elon-Twitter takeover," said Mr. Wagner, who has written about Twitter since 2013.

It has been a challenging year for publishers. Print book sales are down 6.2% so far this year, according to book tracker NPD BookScan. Nonfiction is faring even worse, with sales down 11% during the period.

Mr. Mezrich is known in publishing circles for his ability to write and report quickly on current events. His GameStop book, "The Antisocial Network: The GameStop Short Squeeze and the Ragtag Group of Amateur Traders That Brought Wall Street to Its Knees" was written as the story was unfolding in early 2021 and published in September of that year. A movie version, titled "Dumb Money" and directed by Craig Gillespie, is in postproduction.

Mr. Mezrich said he doesn't care if some of his books don't have a clean ending. What matters to him, he said, is to capture moments that he thinks deserve to be told.

"I approach my stories as thrillers that happen to be true," he said.

His previous books include 2002's "Bringing Down the House: The Inside Story of Six M.I.T. Students Who Took Vegas for Millions," which was turned into a feature film starring Kevin Spacey, "21." His 2009 book, "The Accidental Billionaires: The Founding of Facebook—A Tale of Sex, Money, Genius and Betrayal" was adapted to become "The Social Network," starring Jesse Eisenberg as Facebook CEO Mark Zuckerberg.

Mr. Mezrich's new book has drawn interest from Beau Flynn, a veteran Hollywood producer. "What we have is a great character study in Elon Musk and an important business story that is culturally relevant," Mr. Flynn said in an interview.

TECHNOLOGY

# AI Chat Tech Could Fuel Drug Discovery

Natural language processing algorithms powering bots like ChatGPT hold promise

By Karen Hao

Absci says it used protein-language models to enhance a cancer drug, making it bind more tightly to its target on cells' surface.

ABSCI

In their search for new disease-fighting medicines, drugmakers have long employed a laborious trial-and-error process to identify the right compounds. But what if artificial intelligence could predict the makeup of a new drug molecule the way Google figures out what you are searching for, or email programs anticipate your replies—like "Got it, thanks"?

That is the aim of a new approach that uses an AI technique known as natural language processing—the same technology that enables OpenAI's ChatGPT to generate human-like responses—to analyze and synthesize proteins, which are the building blocks of life and of many drugs. The approach exploits the fact that biological codes have something in common with search queries and email texts: Both are represented by a series of letters.

Proteins are made up of dozens to thousands of small chemical subunits known as amino acids, and scientists use special notation to document the sequences. With each amino acid corresponding to a single letter of the alphabet, proteins are represented as long, sentence-like combinations.

Natural language algorithms, which quickly analyze language and predict the next step in a conversation, also can be applied to this biological data to create protein-language models. The models encode what might be called the grammar of proteins—the rules that govern which amino acid combinations yield specific therapeutic properties—to predict the sequences of letters that could become the basis of new drug molecules. As a result, the time required for the early stages of drug discovery could shrink from years to months.

## Natural Promise

"Nature has provided us with tons of examples of proteins that have been designed exquisitely with a variety of functions," says Ali Madani, founder of **ProFluent Bio**, a Berkeley, Calif.-based startup focused on language-based protein design. "We're learning the blueprint from nature."

Protein-based drugs are used to treat heart disease, certain cancers and HIV, among other illnesses. In the past two years, companies including **Merck** & Co., **Roche Holding** AG's Genentech and a number of startups like **Helixon** Ltd. and **Ainnocence** have begun to pursue new drugs with natural language processing. The approach, they hope, will not only boost the effectiveness of existing drugs and drug candidates but also open the door to never-before-seen molecules that could treat diseases like pancreatic cancer or ALS, for which more-effective medicines have remained elusive.

"Technologies like these are going to start addressing areas of biology that have been 'undruggable,'" says Sean McClain, founder and CEO of **Absci** Corp., a drug discovery company in Vancouver, Wash.

Natural language processing for drug discovery still faces major hurdles, according to computational biologists. Tinkering too much with existing protein-based drugs could introduce unintended side effects, they say, and wholly synthetic molecules will require rigorous testing to make sure they are safe for the human body.

But if the natural language algorithms work as their adopters hope, they will bring new force to the promise of artificial intelligence to transform drug discovery. Previous attempts to use AI struggled with limitations in the technology or a lack of data. Recent advances in natural language processing and a dramatic drop in the cost of protein sequencing have largely overcome both problems, proponents say.

## Improving Molecules

With the technology still in the early stages, companies for now are focused on using protein-language models to enhance known molecules, such as to improve the efficacy of drug candidates. Given, say, a naturally occurring monoclonal antibody as a starting point, the models can recommend tweaks to its amino acid sequence to improve its therapeutic benefit.

In a preprint paper published online in August, researchers at Absci used this method to enhance the antibody-based cancer drug trastuzumab so that it binds more tightly to its target on the surface of cancer cells. A tighter bind could mean patients derive benefit from a lower dosage, shortening drug regimens and reducing side effects.

In another paper published in March in the Proceedings of the National Academy of Sciences, researchers from MIT, Tsinghua University and Helixon, which is based in Beijing, used protein-language models to transform a Covid-19 drug candidate that is only effective against alpha, beta and gamma variants into one that could also treat delta.

Ainnocence, a startup that spans the U.S. and China, helps clients use such models to modify animal proteins, such as antibodies from rabbits—a common starting point for drug discovery—into forms compatible with human physiology, according to the company's founder and CEO, Lurong Pan.

## Starting From Scratch

But even now drugmakers are setting their sights beyond the modification of known proteins to so-called *de novo* design, the process of synthesizing molecules from scratch.

Genentech says a recent experiment showed that it was possible to design an antibody to bind to the same cellular target as pertuzumab, a breast cancer drug on the market that Genentech sells under the brand name Perjeta, but with an entirely new amino acid sequence. Company scientists gave its protein-language models only the target and the antibody's desired three-dimensional shape—the primary determinant of a protein's function—says Richard Bonneau, a Genentech executive director who joined the company last year when it acquired his startup, Prescient Design.

## Teaming Up

Absci and Helixon also are working with drugmakers to design medicines for cancer and autoimmune diseases using *de novo* methods. Absci announced a partnership in January with Merck to go after three drug targets, according to Mr. McClain. A Merck spokesman said the company has entered into a number of collaborations to explore the potential of artificial intelligence in drug development. Helixon last month signed with two big pharma companies to tackle previously undruggable diseases, CEO and founder Jian Peng says.

"All the hard problems in drug discovery have been stuck there for a long time and have been waiting for a new wave of technology to solve it," says Ainnocence's Dr. Pan. "This is really a paradigm-shifting methodology."

Ultimately, many computational biologists expect protein-language models to yield benefits beyond faster drug development. The same technique might be used to produce better enzymes for degrading plastics, treating wastewater and cleaning up oil spills, among other environmental applications, the biologists say.

"Proteins are the workhorses of life," ProFluent Bio's Dr. Madani says. "They enable us to breathe and see, they enable the environment to be sustained, they enable human health and disease. If we can design better workers or new workers all together, that could have really wide-ranging applications."

# Brazil, a Bastion of Hydropower, Is Gaining Traction in Wind and Solar

By Paulo Trevisani

Abundant sunny days and windy nights help make Brazil attractive for renewable-energy projects.

JONNE RORIZ/BLOOMBERG NEWS

Brazil has long been known as a renewable-energy powerhouse thanks to a geography that is ideal for generating hydropower. Now, with the nation's incoming administration pledging to boost environmental policies, hopes are rising for further government support for investment in renewables such as wind and solar.

For companies under pressure to decarbonize, Brazil's clean-power market offers some advantages, including an established renewable-power-generation infrastructure, historically supportive government policies and abundant natural resources, including lots of sunny days and windy nights. The government, meanwhile, welcomes renewables projects as they can generate jobs and extra income for communities plagued by poverty.

"There is global pressure to decarbonize and Brazil is one of the places more suitable for decarbonization," said André Clark, senior vice president for Siemens Energy Latin America, part of Germany-based gas-and-renewable-power company **Siemens Energy** AG. He said the country's natural resources boost the potential return companies can expect from their investment.

"A client in the U.S. might be happy if a wind farm runs 35% of the time," Mr. Clark said. "In Brazil, the average is 60%; many farms get 72%. This is almost like a hydroelectric plant."

In a recent example of foreign interest in Brazilian renewables, France-based oil-and-gas company **TotalEnergies** SE said in October that it would pay at least $550 million for a 34% stake in a new joint venture with privately owned Brazilian developer **Casa dos Ventos Energias Renováveis** SA to build and operate a renewable portfolio expected to eventually reach capacity of more than 6 gigawatts. For context, capacity of 1 gigawatt can power a developed-economy city of about 750,000 homes.

Hydropower represented 58% of Brazil's electricity capacity last year, while solar plants accounted for 2% and wind power 10%, according to government data. An additional 8% came from renewable sources that power specific consumers, such as rooftop solar panels on residences or factories, including some selling excess power. A further 7% originated from thermoelectric plants fired by renewable sources, while nonrenewable sources such as fossil fuels were 15% of the mix.

Brazil's national grid supplies nearly all homes and businesses in a nation of about 215 million people spread over a territory nearly as vast as the U.S. The wave of solar, wind and other clean-energy projects is expected to take market share from historically predominant hydroelectric generation.

The promising outlook for renewables does face some challenges. Wind and solar power are abundant in areas thousands of miles north of metropolitan centers where it is mostly needed, industry officials said. Brazil's relatively high borrowing costs and slowing economic growth domestically and around the world also could slow down some projects, and there has been pressure to cut some government subsidies aimed at promoting clean energy.

Rising input costs are another hurdle. Wages have been rising because of inflation. There are signs that price increases in Brazil are starting to decline, but some economists said the new administration's push for higher spending could revive inflation. Additionally, while Brazil's hefty borrowing costs are expected to fall next year, continued monetary tightening in the U.S. could lead the Brazilian central bank to keep its own rates higher for longer.

**Brazil's incoming president has pledged support for a green economy.**

The country's political landscape also poses risks. A leftist former president, Luiz Inácio Lula da Silva, was elected in October by a thin margin and is to be inaugurated Jan. 1. Conservative incumbent Jair Bolsonaro lost his re-election bid and has challenged the results.

His supporters have staged several street demonstrations against the president-elect, and a divided Congress is expected to hamper bills supported by Mr. da Silva.

Still, the incoming president pledged support for a green economy in his victory speech and again during his recent appearance at United Nations climate talks in Egypt.

Despite the risks, many still see great promise in Brazilian clean energy, particularly wind and solar. New solar and wind plants are generally welcomed by environmentalists and can often offer much-needed income to small farms. That combination can attract more funding from the growing crowd of investors interested in environmental, social and governance projects.

"I see a horizon of investments for years to come," said André Flores, head of renewable power and transition in Brazil at Toronto-based Brookfield Asset Management. Mr. Flores said the expected growth stems, in great part, from the need to complement hydro projects, hit recently by severe droughts.

In addition to the risk of drought, large new hydroelectric projects also face regulatory hurdles because they can flood rainforests and displace people, power-sector experts said. "It isn't only about the environment; the social impact is also significant," said Lucas Araripe, Casa dos Ventos' business-development director.

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PUBLIC NOTICES

NOTICE OF CLAIMS BAR DATE

TO: All Creditors of TCA Fund Management Group Corp. and TCA Global Credit Fund GP, Ltd., TCA Global Credit Fund, LP, TCA Global Credit Fund, Ltd., TCA Global Credit Master Fund, LP, and TCA Global Lending Corp. (collectively, the Receivership Entities").

As you may be aware, the Receivership Entities have been placed in receivership pursuant to an Order issued by the United States District Court for the Southern District of Florida in an action styled Securities and Exchange Commission v. TCA Fund Management Group Corp., et al., Case No.: 20-CIV-21964-CMA (the "Action") and Jonathan E. Perlman (the "Receiver") has been appointed as Receiver. The Receiver is responsible for administering all claims which may be asserted against the Receivership Entities, subject to approval of the Court.

The purpose of this Notice is to inform you that the Court has set a Claims Bar Date of January 31, 2023 (the "Claims Bar Date"), by which time any and all persons with claims against the Receivership Entities must submit a claim. If you have not already filed a claim, you must do so on or before the Claims Bar Date. If you do not already have a claim form, you can request a copy by sending an email to: receiver@tcafundreceivership.com, or by requesting one from the Receiver's office at the address set forth herein:

Jonathan E. Perlman, Receiver
TCA Fund Management Group Corp. et al.
c/o Genovese Joblove Battista, P.A.
100 SE Second Street, Suite 440
Miami, FL 33131

**All claims should be post marked on or before the Claims Bar Date. If you have already filed a claim with the Receiver, you may ignore this Notice. Failure to file a claim with the Receiver on or before the Claims Bar Date will result in your claim forever being barred.**

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# BIGGEST 1,000 STOCKS

## How to Read the Stock Tables

The following explanations apply to NYSE, NYSE Arca, NYSE American and Nasdaq Stock Market listed securities. Prices are composite quotations that include primary market trades as well as trades reported by Nasdaq BX (formerly Boston), Chicago Stock Exchange, Cboe, NYSE National and Nasdaq ISE.
The list comprises the 1,000 largest companies based on market capitalization.
**Underlined quotations** are those stocks with large changes in volume compared with the issue's average trading volume.
**Boldfaced quotations** highlight those issues whose price changed by 5% or more if their previous closing price was $2 or higher.

**Footnotes:**
▲-New 52-week high.
▼-New 52-week low.
**dd**-Indicates loss in the most recent four quarters.
**FD**-First day of trading.
**h**-Does not meet continued listing standards
**lf**-Late filing
**q**-Temporary exemption from Nasdaq requirements.
**t**-NYSE bankruptcy
**v**-Trading halted on primary market.
**vj**-In bankruptcy or receivership or being reorganized under the Bankruptcy Code, or securities assumed by such companies.

**Wall Street Journal stock tables reflect composite regular trading as of 4 p.m. and changes in the closing prices from 4 p.m. the previous day.**

**Wednesday, December 7, 2022**

### A B C

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| ABB | ABB | 30.90 | -0.05 |
| ADT | ADT | 9.63 | 0.03 |
| AECOM | ACM | 84.95 | -0.29 |
| AES | AES | 27.98 | -0.15 |
| Aflac | AFL | 71.20 | 0.11 |
| AGCO | AGCO | 134.68 | 1.77 |
| Ansys | ANSS | 242.92 | -0.98 |
| APA | APA | 43.66 | -0.21 |
| ASETech | ASX | 6.66 | ... |
| ASML | ASML | 601.35 | 8.30 |
| AT&T | T | 19.30 | 0.13 |
| AbbottLabs | ABT | 104.81 | 0.95 |
| AbbVie | ABBV | 165.40 | 1.68 |
| Abiomed | ABMD | 377.79 | -0.16 |
| AcadiaHealthcare | ACHC | 81.94 | -2.77 |
| Accenture | ACN | 286.69 | 1.28 |
| ActivisionBliz | ATVI | 75.93 | -0.18 |
| Adobe | ADBE | 326.68 | -4.47 |
| AdvanceAuto | AAP | 146.65 | 1.12 |
| AdvDrainageSys | WMS | 88.77 | -1.31 |
| AdvMicroDevices | AMD | 70.14 | -0.13 |
| Aegon | AEG | 4.84 | -0.01 |
| AerCap | AER | 58.99 | -1.01 |
| AgilentTechs | A | 153.73 | 2.38 |
| agilon health | AGL | 17.08 | -0.70 |
| AgnicoEagle | AEM | 51.89 | 1.10 |
| AirProducts | APD | 315.58 | 3.48 |
| Airbnb | ABNB | 91.50 | -1.62 |
| AkamaiTech | AKAM | 89.66 | -0.15 |
| Albemarle | ALB | 257.61 | -0.38 |
| Albertsons | ACI | 21.45 | 0.38 |
| Alcoa | AA | 46.60 | -1.71 |
| Alcon | ALC | 67.87 | 0.75 |
| AlexandriaRlEst | ARE | 145.52 | -0.97 |
| Alibaba | BABA | 88.33 | -3.12 |
| AlignTech | ALGN | 187.33 | 1.29 |
| Allegion | ALLE | 109.15 | -0.02 |
| AlliantEnergy | LNT | 54.50 | -0.81 |
| Allstate | ALL | 130.11 | -0.20 |
| AllyFinancial | ALLY | 25.00 | -0.36 |
| **AlnylamPharm** | **ALNY** | **231.33** | **11.69** |
| Alphabet A | GOOGL | 94.94 | -2.04 |
| Alphabet C | GOOG | 95.15 | -2.16 |
| Altria | MO | 46.37 | 0.16 |
| Amazon.com | AMZN | 88.46 | 0.21 |
| Ambev | ABEV | 3.03 | 0.03 |
| Amcor | AMCR | 12.13 | -0.02 |
| Amdocs | DOX | 88.25 | -0.68 |
| Amerco | UHAL | 64.47 | 0.80 |
| AmercoN | UHALB | 60.79 | -0.31 |
| Ameren | AEE | 86.61 | -0.68 |
| AmericaMovil A | AMOV | 18.31 | -0.12 |
| AmericaMovil | AMX | 18.54 | -0.06 |
| **AmerAirlines** | **AAL** | **13.55** | **-0.78** |
| AEP | AEP | 96.67 | 0.30 |
| AmerExpress | AXP | 154.77 | 0.07 |
| AmericanFin | AFG | 137.77 | -1.24 |
| AmHomes4Rent | AMH | 32.75 | 0.68 |
| AIG | AIG | 62.03 | 0.34 |
| AmerTowerREIT | AMT | 211.11 | -1.41 |
| AmerWaterWorks | AWK | 153.79 | -0.89 |
| AmericoldRealty | COLD | 28.96 | ... |
| Ameriprise | AMP | 322.00 | 0.20 |
| AmerisourceBrgn | ABC | 170.29 | 0.97 |
| Ametek | AME | 140.48 | 0.66 |
| Amgen | AMGN | 285.76 | 2.47 |
| AmkorTech | AMKR | 26.31 | -0.08 |
| Amphenol | APH | 78.06 | -0.21 |
| AnalogDevices | ADI | 166.01 | -0.50 |
| AngloGoldAsh | AU | 18.71 | 0.16 |
| AB InBev | BUD | 59.35 | 0.33 |
| AnnalyCap | NLY | 21.31 | 0.33 |
| AnteroResources | AR | 31.42 | 0.44 |
| Aon | AON | 304.14 | -3.82 |
| ApolloGlbMgmt | APO | 61.39 | -1.85 |
| Apple | AAPL | 140.94 | -1.97 |
| ApplMaterials | AMAT | 106.11 | 1.40 |
| Aptargroup | ATR | 106.30 | -0.70 |
| Aptiv | APTV | 97.79 | -1.92 |
| Aramark | ARMK | 40.26 | -0.80 |
| ArcelorMittal | MT | 26.50 | -0.17 |
| ArchCapital | ACGL | 60.15 | -0.39 |
| ArcherDaniels | ADM | 93.17 | 2.32 |
| AresMgmt | ARES | 71.08 | -1.17 |
| arGEN-X | ARGX | 384.37 | -1.17 |
| AristaNetworks | ANET | 126.76 | -2.28 |
| ArrowElec | ARW | 105.64 | -0.18 |
| AscendisPharma | ASND | 119.98 | -0.68 |
| AspenTech | AZPN | 226.06 | 5.87 |
| Assurant | AIZ | 129.05 | -0.26 |
| AstraZeneca | AZN | 68.85 | 0.29 |
| Atlassian | TEAM | 125.46 | 0.50 |
| AtmosEnergy | ATO | 117.41 | -0.03 |
| Autodesk | ADSK | 193.34 | -1.27 |
| Autoliv | ALV | 81.39 | -2.62 |
| ADP | ADP | 259.22 | 0.69 |
| AutoZone | AZO | 2455.26 | -1.66 |
| Avalonbay | AVB | 167.97 | 1.08 |
| Avangrid | AGR | 42.32 | -0.57 |
| Avantor | AVTR | 21.81 | 0.20 |
| AveryDennison | AVY | 191.76 | 0.78 |
| AvisBudget | CAR | 189.94 | -4.13 |
| AxonEnterprise | AXON | 170.16 | 0.73 |
| BCE | BCE | 46.62 | -0.07 |
| BHP Group | BHP | 62.45 | -0.29 |
| BJ'sWholesale | BJ | 69.41 | -0.34 |
| BOK Fin | BOKF | 102.25 | -0.81 |
| BP | BP | 33.91 | -0.46 |
| Baidu | BIDU | 114.58 | -2.75 |
| BakerHughes | BKR | 27.88 | -0.50 |
| Ball | BALL | 52.49 | -2.31 |
| BancoBilbaoViz | BBVA | 5.76 | ... |
| BancoBradesco | BBDO | 2.58 | 0.04 |
| BancodeChile | BCH | 19.28 | 0.14 |
| BancSanBrasil | BSBR | 5.32 | 0.05 |
| BcoSantChile | BSAC | 15.71 | -0.20 |
| BancoSantander | SAN | 2.93 | ... |
| BanColombia | CIB | 25.75 | -0.55 |
| BankofAmerica | BAC | 32.74 | -0.26 |
| BankofMontreal | BMO | 94.16 | -0.39 |
| BankNY Mellon | BK | 44.61 | 1.77 |
| BankNovaScotia | BNS | 49.80 | -0.26 |
| Barclays | BCS | 7.76 | -0.05 |
| BarrickGold | GOLD | 16.86 | 0.41 |
| Bath&BodyWks | BBWI | 43.01 | 0.38 |
| BaxterIntl | BAX | 52.35 | 0.84 |
| BectonDicknsn | BDX | 246.48 | 2.09 |
| BeiGene | BGNE | 193.38 | 5.80 |
| BentleySystems | BSY | 38.49 | 0.25 |
| Berkley | WRB | 74.65 | -0.76 |
| BerkHathwy B | BRK.B | 305.82 | -1.96 |
| BerkHathwy A | BRK.A | 461593 | -3244.10 |
| BerryGlobal | BERY | 60.76 | -0.71 |
| BestBuy | BBY | 81.37 | -1.91 |
| **Bilibili** | **BILI** | **21.72** | **1.16** |
| Bill.com | BILL | 110.56 | 3.89 |
| Bio-Techne | TECH | 80.67 | ... |
| Bio-RadLab A | BIO | 403.88 | 4.29 |
| Biogen | BIIB | 292.15 | 0.68 |
| BioMarinPharm | BMRN | 103.69 | 1.47 |
| BioNTech | BNTX | 162.63 | 1.01 |
| BlackKnight | BKI | 59.08 | -0.21 |
| BlackRock | BLK | 709.16 | -1.13 |
| ▼ Blackstone | BX | 77.64 | -1.09 |
| BlockHR | HRB | 41.58 | 0.06 |
| Block | SQ | 61.07 | -0.23 |
| BlueOwlCapital | OWL | 10.80 | 0.10 |
| Boeing | BA | 176.50 | -1.93 |
| BookingHldgs | BKNG | 1955.56 | -86.63 |
| BoozAllen | BAH | 106.25 | -1.36 |
| BorgWarner | BWA | 41.18 | 0.18 |
| ▼ BostonProps | BXP | 65.00 | -0.34 |
| BostonSci | BSX | 45.63 | 0.47 |
| BristolMyers | BMY | 79.93 | 0.01 |
| BritishAmTob | BTI | 42.03 | -0.07 |
| BrixmorProp | BRX | 22.50 | -0.03 |
| Broadcom | AVGO | 518.50 | -7.32 |
| BroadridgeFinl | BR | 142.39 | -0.94 |
| BrookfieldMgt | BAM | 43.30 | -0.05 |
| BrookfieldInfr | BIP | 33.77 | -0.11 |
| BrookfieldRenew | BEPC | 30.81 | -0.03 |
| Brown&Brown | BRO | 57.32 | -0.65 |
| **Brown-Forman B** | **BF.B** | **68.27** | **-5.38** |
| **Brown-Forman A** | **BF.A** | **68.00** | **-5.27** |
| Bruker | BRKR | 66.19 | -0.27 |
| **BuildersFirst** | **BLDR** | **65.47** | **3.29** |
| Bunge | BG | 95.51 | 0.04 |
| BurlingtonStrs | BURL | 198.50 | -1.15 |
| CACI Intl | CACI | 304.82 | -6.20 |
| CBRE Group | CBRE | 76.34 | -0.50 |
| CDW | CDW | 184.85 | 0.11 |
| CF Industries | CF | 100.52 | -0.98 |
| CGI | GIB | 85.47 | 0.40 |
| CH Robinson | CHRW | 96.11 | 0.72 |
| CME Group | CME | 176.00 | -3.89 |
| CMS Energy | CMS | 61.13 | 0.09 |
| CNA Fin | CNA | 41.14 | -0.51 |
| CNH Indl | CNHI | 16.21 | 0.04 |
| CRH | CRH | 39.54 | -0.09 |
| CSX | CSX | 30.91 | -0.25 |
| CVS Health | CVS | 102.28 | 1.09 |
| CadenceDesign | CDNS | 160.59 | -3.07 |
| CAE | CAE | 20.35 | -0.27 |
| CaesarsEnt | CZR | 49.16 | 0.45 |
| CamdenProperty | CPT | 114.28 | -0.35 |
| Cameco | CCJ | 21.53 | -0.25 |
| ▲ **CampbellSoup** | **CPB** | **56.18** | **3.19** |
| CIBC | CM | 43.20 | 0.08 |
| CanNtlRlwy | CNI | 124.79 | -0.17 |
| CanNaturalRes | CNQ | 54.97 | -0.45 |
| CanPacRlwy | CP | 78.96 | 0.04 |
| Canon | CAJ | 22.48 | -0.03 |
| CapitalOne | COF | 93.23 | -0.80 |
| Capri | CPRI | 57.45 | -0.45 |
| CardinalHealth | CAH | 80.15 | 0.75 |
| Carlisle | CSL | 250.96 | -1.09 |
| Carlyle | CG | 29.00 | -1.15 |
| CarMax | KMX | 65.10 | -0.49 |
| Carnival | CCL | 8.89 | -0.41 |
| Carnival | CUK | 8.01 | -0.33 |
| CarrierGlobal | CARR | 43.08 | 0.06 |
| ▲ **CaseysGenStores** | **CASY** | **246.95** | **16.99** |
| Catalent | CTLT | 47.22 | -1.00 |
| Caterpillar | CAT | 228.98 | 0.69 |
| Celanese | CE | 101.91 | -2.90 |
| CelsiusHldg | CELH | 111.36 | -2.60 |
| Cemex | CX | 4.20 | -0.04 |
| CenovusEnergy | CVE | 18.29 | -0.14 |
| Centene | CNC | 87.35 | 1.42 |
| CenterPointEner | CNP | 30.39 | -0.43 |
| CentraisElBras | EBR | 8.42 | 0.19 |
| CeridianHCM | CDAY | 62.67 | -0.08 |
| CharlesRiverLabs | CRL | 212.99 | 1.78 |
| CharterComms | CHTR | 374.89 | 3.72 |
| CheckPoint | CHKP | 131.52 | 0.01 |
| Chemed | CHE | 518.64 | -1.11 |
| CheniereEnergy | LNG | 168.38 | 4.65 |
| CheniereEnerPtrs | CQP | 57.18 | 0.18 |
| ChesapeakeEner | CHK | 95.87 | 2.15 |
| Chevron | CVX | 172.52 | 0.51 |
| ChewyA | CHWY | 41.23 | -0.49 |
| **ChinaEastrnAir** | **CEA** | **20.55** | **1.47** |
| ChinaSoAirlines | ZNH | 31.19 | 1.01 |
| Chipotle | CMG | 1509.46 | 1.06 |
| Chubb | CB | 217.60 | -0.03 |
| ChunghwaTel | CHT | 36.47 | -0.03 |
| Church&Dwight | CHD | 80.70 | 0.26 |
| ChurchillDowns | CHDN | 221.33 | 0.80 |
| Ciena | CIEN | 43.24 | -1.09 |
| ▲ Cigna | CI | 332.19 | 2.55 |
| CincinnatiFin | CINF | 104.80 | -2.14 |
| Cintas | CTAS | 453.28 | 0.66 |
| CiscoSystems | CSCO | 48.18 | -0.41 |
| Citigroup | C | 44.67 | -0.31 |
| CitizensFin | CFG | 39.50 | 0.18 |
| ClearwayEnergyC | CWEN | 33.72 | 0.03 |
| ClearwayEnergyA | CWEN.A | 31.47 | 0.30 |
| Cleveland-Cliffs | CLF | 15.83 | -0.29 |
| Clorox | CLX | 149.32 | 2.37 |
| Cloudflare | NET | 44.27 | 0.67 |
| Coca-Cola | KO | 63.54 | 0.10 |
| Coca-ColaEuro | CCEP | 52.32 | -0.17 |
| Cognex | CGNX | 48.13 | -0.33 |
| CognizantTech | CTSH | 59.40 | -0.24 |
| ▼ CoinbaseGlbl | COIN | 41.26 | -1.15 |
| ColgatePalm | CL | 77.55 | 0.34 |
| Comcast A | CMCSA | 34.62 | -0.15 |
| Comerica | CMA | 65.41 | -0.24 |
| CommerceBcshrs | CBSH | 67.08 | -0.71 |
| SABESP | SBS | 11.02 | 0.22 |
| ▲ ConagraBrands | CAG | 38.23 | 0.67 |
| ConocoPhillips | COP | 114.88 | -0.73 |
| ConEd | ED | 96.59 | -0.97 |
| ConstBrands A | STZ | 246.66 | -0.96 |
| ConstellationEner | CEG | 91.97 | 1.19 |
| Cooper | COO | 314.58 | 1.48 |
| Copart | CPRT | 63.09 | -1.15 |
| CorebridgeFin | CRBG | 20.10 | -0.56 |
| Corning | GLW | 33.12 | -0.16 |
| Corteva | CTVA | 63.76 | 0.10 |
| CoStar | CSGP | 80.16 | -0.80 |
| Costco | COST | 481.97 | 0.81 |
| CoterraEnergy | CTRA | 25.48 | -0.32 |
| Coty | COTY | 7.82 | -0.13 |
| Coupang | CPNG | 18.12 | 0.12 |
| Credicorp | BAP | 144.60 | -3.69 |
| CreditSuisse | CS | 3.17 | -0.05 |
| CrowdStrike | CRWD | 113.20 | -0.63 |
| CrownCastle | CCI | 138.72 | 1.45 |
| CrownHoldings | CCK | 80.71 | -1.58 |
| CubeSmart | CUBE | 42.09 | 0.27 |
| Cullen/Frost | CFR | 137.37 | -0.93 |
| Cummins | CMI | 243.94 | -1.84 |
| Curtiss-Wright | CW | 172.49 | -2.24 |

### D E F

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| DCP Midstream | DCP | 38.60 | -0.13 |
| DISH Network | DISH | 14.45 | ... |
| DTE Energy | DTE | 114.41 | -1.46 |
| DXC Tech | DXC | 26.62 | -1.19 |
| Danaher | DHR | 268.24 | 2.89 |
| Darden | DRI | 142.21 | -0.65 |
| DarlingIngred | DAR | 63.04 | 0.62 |
| Datadog | DDOG | 68.28 | -0.30 |
| DaVita | DVA | 74.83 | 1.00 |
| DeckersOutdoor | DECK | 377.85 | 1.52 |
| Deere | DE | 440.65 | 2.40 |
| DellTechC | DELL | 41.92 | -0.55 |
| DeltaAir | DAL | 34.33 | -1.58 |
| DentsplySirona | XRAY | 29.76 | -0.35 |
| DeutscheBank | DB | 10.44 | -0.02 |
| DevonEnergy | DVN | 64.25 | 0.12 |
| DexCom | DXCM | 117.91 | 1.08 |
| Diageo | DEO | 188.59 | -0.30 |
| DiamondbkEner | FANG | 136.56 | -1.65 |
| Dick's | DKS | 118.50 | 1.93 |
| DigitalRealty | DLR | 108.80 | 0.75 |
| DiscoverFinSvcs | DFS | 103.74 | -0.13 |
| Disney | DIS | 92.15 | -0.14 |
| DocuSign | DOCU | 42.08 | 0.25 |
| DolbyLab | DLB | 73.07 | -1.08 |
| DollarGeneral | DG | 248.97 | 3.52 |
| DollarTree | DLTR | 144.99 | -0.10 |
| DominionEner | D | 58.00 | -0.25 |
| Domino's | DPZ | 372.14 | 2.78 |
| Donaldson | DCI | 59.22 | -0.01 |
| DoorDash | DASH | 53.62 | 0.91 |
| Dover | DOV | 138.35 | -1.42 |
| Dow | DOW | 50.70 | -0.35 |
| Doximity | DOCS | 34.76 | 0.97 |
| DrReddy'sLab | RDY | 53.25 | 0.01 |
| DraftKings | DKNG | 13.90 | -0.30 |
| Dropbox | DBX | 22.07 | -0.25 |
| DukeEnergy | DUK | 99.58 | -0.93 |
| DuPont | DD | 69.70 | -0.27 |
| Dynatrace | DT | 36.09 | 0.08 |
| EMCOR | EME | 149.33 | 0.35 |
| ENI | E | 27.98 | -0.42 |
| EOG Rscs | EOG | 126.16 | -1.63 |
| EPAM Systems | EPAM | 338.98 | -1.17 |
| EQT | EQT | 36.73 | -0.18 |
| EastWestBncp | EWBC | 65.78 | 0.81 |
| EastGroup | EGP | 153.70 | 1.90 |
| EastmanChem | EMN | 84.75 | -0.36 |
| Eaton | ETN | 157.27 | -0.54 |
| eBay | EBAY | 43.16 | -0.19 |
| Ecolab | ECL | 147.97 | -0.46 |
| Ecopetrol | EC | 9.28 | 0.01 |
| EdisonInt | EIX | 65.37 | -0.65 |
| EdwardsLife | EW | 72.58 | 0.31 |
| ElbitSystems | ESLT | 171.11 | 1.08 |
| ElectronicArts | EA | 126.01 | -1.40 |
| ElevanceHealth | ELV | 529.90 | 1.50 |
| EmersonElec | EMR | 94.71 | 0.36 |
| Enbridge | ENB | 39.26 | -0.13 |
| Endeavor | EDR | 21.04 | -0.27 |
| EnergyTransfer | ET | 11.91 | -0.03 |
| EnphaseEnergy | ENPH | 317.05 | 7.32 |
| Entegris | ENTG | 69.38 | -0.22 |
| Entergy | ETR | 116.00 | -1.08 |
| EnterpriseProd | EPD | 23.86 | -0.36 |
| Equifax | EFX | 193.84 | -0.22 |
| Equinix | EQIX | 685.12 | -1.75 |
| Equinor | EQNR | 35.99 | 0.03 |
| Equitable | EQH | 30.69 | 0.17 |
| EquityLife | ELS | 63.93 | ... |
| EquityResdntl | EQR | 61.96 | 0.26 |
| ErieIndemnity A | ERIE | 270.76 | -7.18 |
| EssentialUtil | WTRG | 48.09 | 0.13 |
| EssexProp | ESS | 212.90 | 1.82 |
| EsteeLauder | EL | 232.53 | -4.52 |
| Etsy | ETSY | 130.13 | -4.88 |
| EverestRe | RE | 332.95 | -3.81 |
| Evergy | EVRG | 59.67 | 1.20 |
| EversourceEner | ES | 83.76 | -0.60 |
| ExactSciences | EXAS | 45.90 | -0.28 |
| Exelon | EXC | 42.31 | -0.56 |
| **Expedia** | **EXPE** | **90.79** | **-6.12** |
| ExpeditorsIntl | EXPD | 107.60 | -2.59 |
| ExtraSpaceSt | EXR | 157.16 | 1.12 |
| ExxonMobil | XOM | 103.65 | -0.23 |
| F5 | FFIV | 148.43 | -0.83 |
| FMC | FMC | 127.92 | -0.02 |
| FactSet | FDS | 450.29 | -3.86 |
| FairIsaac | FICO | 613.50 | 3.89 |
| Fastenal | FAST | 50.25 | 0.11 |
| FederalRealty | FRT | 107.19 | 0.46 |
| FedEx | FDX | 172.28 | -0.77 |
| Ferguson | FERG | 123.51 | 1.43 |
| Ferrari | RACE | 220.08 | -1.02 |
| FidNatlFin | FNF | 37.39 | 0.58 |
| FidNatlInfo | FIS | 69.23 | -0.50 |
| FifthThirdBncp | FITB | 32.97 | 0.73 |
| FirstCitizBcshA | FCNCA | 785.01 | 2.51 |
| FirstHorizon | FHN | 24.60 | 0.10 |
| FirstIndRlty | FR | 49.70 | 0.21 |
| FirstRepBank | FRC | 117.05 | -1.66 |
| FirstSolar | FSLR | 154.74 | -2.73 |
| FirstEnergy | FE | 41.70 | 0.13 |
| Fiserv | FISV | 100.49 | 0.14 |
| FiveBelow | FIVE | 178.56 | -2.03 |
| FleetCorTech | FLT | 186.44 | 1.06 |
| Flex | FLEX | 21.56 | 0.39 |
| Floor&Decor | FND | 74.65 | 2.61 |
| FomentoEconMex | FMX | 77.01 | 0.63 |
| FordMotor | F | 13.10 | -0.18 |
| Fortinet | FTNT | 51.60 | 0.75 |
| Fortis | FTS | 39.90 | -0.06 |
| Fortive | FTV | 66.41 | -0.12 |
| FortBrandsHome | FBHS | 59.84 | -0.97 |
| FoxA | FOXA | 30.70 | -0.30 |
| FoxB | FOX | 28.92 | -0.31 |
| Franco-Nevada | FNV | 142.81 | 1.18 |
| FranklinRscs | BEN | 26.78 | 0.18 |
| FreeportMcM | FCX | 38.55 | 0.09 |
| FreseniusMed | FMS | 15.81 | 0.23 |
| FullTruck | YMM | 8.70 | ... |
| Futu | FUTU | 65.08 | -2.14 |

### G H I

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| GFLEnvironmental | GFL | 27.89 | -0.19 |
| GSK | GSK | 36.88 | -1.04 |
| Gallagher | AJG | 193.96 | -2.02 |
| GameStop | GME | 22.26 | -1.13 |
| Gaming&Leisure | GLPI | 51.95 | -0.45 |
| Garmin | GRMN | 94.34 | -0.16 |
| Gartner | IT | 342.55 | -5.25 |
| GenDigital | GEN | 22.65 | -0.48 |
| GeneralDynamics | GD | 246.21 | -2.07 |
| GeneralElec | GE | 85.00 | -0.28 |
| ▲ GeneralMills | GIS | 87.22 | 1.84 |
| GeneralMotors | GM | 37.96 | -0.06 |
| Genmab | GMAB | 45.72 | 0.43 |
| Genpact | G | 44.51 | -0.58 |
| Gentex | GNTX | 27.29 | -0.17 |
| GenuineParts | GPC | 182.86 | 0.20 |
| Gerdau | GGB | 5.99 | 0.06 |
| GileadSciences | GILD | 87.79 | -0.17 |
| GlobalPayments | GPN | 98.84 | 1.19 |
| GlobalFoundries | GFS | 60.90 | 0.09 |
| Globant | GLOB | 171.69 | -0.02 |
| GlobeLife | GL | 119.13 | -0.08 |
| GlobusMedical | GMED | 70.06 | 1.11 |
| GoDaddy | GDDY | 74.38 | 0.50 |
| GoldFields | GFI | 11.16 | 0.08 |
| GoldmanSachs | GS | 359.92 | -2.99 |
| Grab | GRAB | 2.94 | -0.07 |
| Graco | GGG | 67.78 | 0.35 |
| Grainger | GWW | 586.41 | 6.07 |
| GraphicPkg | GPK | 22.61 | -0.15 |
| Grifols | GRFS | 7.95 | -0.10 |
| GpoAeroportuar | PAC | 159.72 | 1.17 |
| ▲ GpoAeroportSur | ASR | 249.66 | -0.56 |
| HCA Healthcare | HCA | 238.11 | 1.49 |
| HDFC Bank | HDB | 67.57 | -0.65 |
| HF Sinclair | DINO | 51.18 | -0.11 |
| HP | HPQ | 27.83 | -0.48 |
| HSBC | HSBC | 30.07 | -0.30 |
| H World | HTHT | 41.27 | -1.48 |
| **Haleon** | **HLN** | **7.31** | **-0.39** |
| Halliburton | HAL | 35.05 | -1.03 |
| HalozymeTherap | HALO | 57.74 | 1.36 |
| HarleyDavidson | HOG | 46.26 | -0.20 |
| HartfordFinl | HIG | 74.56 | -0.48 |
| Hasbro | HAS | 60.04 | -0.53 |
| HealthcareRealty | HR | 19.73 | 0.09 |
| HealthpeakProp | PEAK | 25.35 | -0.46 |
| Heico | HEI | 160.01 | 0.63 |
| Heico A | HEI.A | 124.45 | 0.02 |
| HenrySchein | HSIC | 81.40 | 0.76 |
| Hershey | HSY | 236.69 | 4.13 |
| Hess | HES | 134.77 | -0.84 |
| HessMidstream | HESM | 28.85 | -0.55 |
| HewlettPackard | HPE | 16.06 | -0.21 |
| Hilton | HLT | 134.32 | -3.25 |
| Hologic | HOLX | 73.80 | -0.42 |
| HomeDepot | HD | 320.15 | 2.70 |
| HondaMotor | HMC | 23.85 | 0.15 |
| Honeywell | HON | 213.45 | 0.26 |
| HorizonTherap | HZNP | 96.30 | -0.55 |
| HormelFoods | HRL | 47.62 | 0.78 |
| DR Horton | DHI | 86.27 | 2.36 |
| HostHotels | HST | 17.58 | 0.17 |
| HoulihanLokey | HLI | 96.46 | -1.05 |
| HowmetAerospace | HWM | 37.87 | ... |
| Hubbell | HUBB | 246.78 | 1.36 |
| HubSpot | HUBS | 275.75 | 5.49 |
| Humana | HUM | 549.18 | 2.83 |
| JBHunt | JBHT | 176.30 | -1.39 |
| HuntingtonBcshs | HBAN | 14.67 | -0.01 |
| HuntingIngalls | HII | 234.32 | -1.39 |
| HyattHotels | H | 95.49 | -0.96 |
| ICICI Bank | IBN | 22.69 | 0.12 |
| ICL Group | ICL | 8.38 | 0.02 |
| IdexxLab | IDXX | 420.10 | 4.71 |
| ING Groep | ING | 11.79 | -0.01 |
| Invesco | IVZ | 18.36 | -0.15 |
| IQVIA | IQV | 207.69 | -2.18 |
| ITT | ITT | 80.66 | 0.36 |
| IcahnEnterprises | IEP | 50.43 | 0.16 |
| Icon | ICLR | 196.89 | -3.42 |
| IDEX | IEX | 235.05 | 1.27 |
| IllinoisToolWks | ITW | 220.10 | -1.49 |
| Illumina | ILMN | 208.52 | 2.54 |
| ImperialOil | IMO | 52.42 | 0.62 |
| Incyte | INCY | 84.03 | 1.49 |
| Infosys | INFY | 19.39 | -0.02 |
| IngersollRand | IR | 52.81 | 0.08 |
| Ingredion | INGR | 99.10 | 1.15 |
| InspireMedical | INSP | 229.52 | -1.40 |
| Insulet | PODD | 304.89 | 4.93 |
| Intel | INTC | 28.33 | -0.27 |
| InteractiveBrkrs | IBKR | 76.11 | -2.61 |
| ICE | ICE | 103.53 | -2.21 |
| InterContinentl | IHG | 58.88 | 0.07 |
| IBM | IBM | 147.27 | -0.23 |
| IntlFlavors | IFF | 108.10 | 3.15 |
| IntlPaper | IP | 36.15 | -0.27 |
| Interpublic | IPG | 32.10 | -0.58 |
| Intuit | INTU | 388.65 | -1.13 |
| IntuitiveSurgical | ISRG | 267.96 | 1.65 |
| InvitatHomes | INVH | 32.18 | 0.52 |
| IronMountain | IRM | 54.43 | -0.24 |
| ItauUnibanco | ITUB | 4.94 | ... |

### J K L

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| JD.com | JD | 58.45 | -1.90 |
| JPMorganChase | JPM | 131.50 | -0.09 |
| Jabil | JBL | 70.58 | -0.20 |
| JackHenry | JKHY | 184.78 | 1.29 |
| JacobsSolns | J | 122.72 | 0.83 |
| JamesHardie | JHX | 18.91 | -0.31 |
| JazzPharm | JAZZ | 151.10 | 1.17 |
| JefferiesFin | JEF | 35.55 | -0.36 |
| J&J | JNJ | 177.17 | 1.07 |
| JohnsonControls | JCI | 66.39 | 0.29 |
| JonesLang | JLL | 161.26 | -0.52 |
| JuniperNetworks | JNPR | 31.97 | -0.18 |
| KB Financial | KB | 38.52 | -0.78 |
| KBR | KBR | 51.91 | -0.93 |
| **KE Holdings** | **BEKE** | **16.00** | **-1.03** |
| KKR | KKR | 47.35 | -1.70 |
| KLA | KLAC | 388.09 | 4.85 |
| KT | KT | 14.19 | 0.03 |
| Kanzhun | BZ | 18.81 | -0.70 |
| KarunaTherap | KRTX | 200.01 | -0.78 |
| Kellogg | K | 73.89 | 0.82 |
| KeurigDrPepper | KDP | 37.94 | 0.27 |
| KeyCorp | KEY | 17.26 | 0.10 |
| KeysightTechs | KEYS | 177.70 | 0.87 |
| ▼ KilroyRealty | KRC | 38.25 | -1.04 |
| KimberlyClark | KMB | 136.70 | 0.69 |
| KimcoRealty | KIM | 21.99 | -0.10 |
| KinderMorgan | KMI | 18.04 | -0.06 |
| KinsaleCapital | KNSL | 289.73 | -0.84 |
| Knight-Swift | KNX | 56.01 | 0.45 |
| Philips | PHG | 14.20 | ... |
| KoreaElcPwr | KEP | 7.58 | 0.09 |
| KraftHeinz | KHC | 39.89 | 0.47 |
| Kroger | KR | 46.94 | 0.61 |
| LKQ | LKQ | 52.65 | -1.07 |
| LPL Financial | LPLA | 224.46 | -2.59 |
| L3HarrisTech | LHX | 217.91 | -0.85 |
| LabCorp.ofAmerica | LH | 233.68 | -0.47 |
| LamResearch | LRCX | 444.28 | 1.19 |
| LamarAdv | LAMR | 93.44 | 0.56 |
| LambWeston | LW | 87.07 | 0.78 |
| LasVegasSands | LVS | 47.13 | 0.33 |
| LatticeSemi | LSCC | 69.45 | 0.58 |
| Lear | LEA | 131.05 | -3.96 |
| LegendBiotech | LEGN | 54.90 | 0.94 |
| Leidos | LDOS | 108.50 | -0.99 |
| Lennar B | LEN.B | 73.77 | 2.75 |
| Lennar A | LEN | 89.00 | 3.10 |
| LennoxIntl | LII | 258.29 | 2.27 |
| LeviStrauss | LEVI | 16.41 | 0.12 |
| LiAuto | LI | 22.59 | -0.51 |
| LibertyBroadbandA | LBRDA | 85.72 | 0.88 |
| LibertyBroadbandC | LBRDK | 86.48 | 0.98 |
| LibertyGlobal B | LBTYB | 19.65 | 0.64 |
| LibertyGlobal C | LBTYK | 19.64 | -0.13 |
| LibertyGlobal A | LBTYA | 18.94 | -0.12 |
| LibertyFormOne A | FWONA | 52.65 | -0.43 |
| LibertyFormOne C | FWONK | 58.99 | -0.41 |
| LibertyBraves A | BATRA | 33.04 | -0.57 |
| LibertyBraves C | BATRK | 32.49 | -0.71 |
| LibertySirius A | LSXMA | 41.68 | -0.18 |
| LibertySirius C | LSXMK | 41.53 | -0.24 |
| LifeStorage | LSI | 104.97 | 0.44 |
| EliLilly | LLY | 371.97 | 3.43 |
| LincolnElectric | LECO | 146.63 | 2.81 |
| Linde | LIN | 331.40 | -0.10 |
| LiveNationEnt | LYV | 71.14 | 0.23 |
| LloydsBanking | LYG | 2.24 | ... |
| LockheedMartin | LMT | 481.20 | -2.80 |
| Loews | L | 56.24 | -0.88 |
| LogitechIntl | LOGI | 59.57 | -0.41 |
| Lowe's | LOW | 206.89 | 4.98 |
| ▼ Lucid | LCID | 8.61 | -0.04 |
| lululemon | LULU | 372.33 | 2.33 |
| LyondellBasell | LYB | 81.67 | -0.63 |

### M N

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| **M&T Bank** | **MTB** | **147.97** | **-12.38** |
| MGM Resorts | MGM | 36.38 | -0.94 |
| MPLX | MPLX | 31.92 | -0.73 |
| MSCI | MSCI | 500.40 | 0.50 |
| MagellanMid | MMP | 50.34 | -0.48 |
| MagnaIntl | MGA | 58.04 | -0.70 |
| ManhattanAssoc | MANH | 118.06 | 1.05 |
| ManulifeFin | MFC | 17.70 | 0.01 |
| MarathonOil | MRO | 27.41 | -0.04 |
| MarathonPetrol | MPC | 109.00 | -0.29 |
| Markel | MKL | 1294.20 | -21.14 |
| MarketAxess | MKTX | 275.14 | -9.91 |
| Marriott | MAR | 157.28 | -3.19 |
| Marsh&McLen | MMC | 171.24 | -0.71 |
| MartinMarietta | MLM | 352.50 | 2.51 |
| MarvellTech | MRVL | 40.41 | -0.68 |
| Masco | MAS | 48.92 | 0.50 |
| Masimo | MASI | 139.39 | 0.74 |
| MasTec | MTZ | 86.85 | 0.21 |
| Mastercard | MA | 347.42 | -0.11 |
| MatadorRscs | MTDR | 59.03 | -0.26 |
| MatchGroup | MTCH | 43.05 | -0.28 |
| McCormick | MKC | 85.35 | 0.97 |
| McDonald's | MCD | 270.34 | -1.43 |
| McKesson | MCK | 385.51 | 7.47 |
| MedicalProp | MPW | 11.88 | -0.36 |
| Medtronic | MDT | 76.91 | -0.17 |
| MercadoLibre | MELI | 863.81 | 0.72 |
| Merck | MRK | 110.09 | 1.16 |
| MetaPlatforms | META | 113.93 | -0.19 |
| MetLife | MET | 74.59 | -0.69 |
| MettlerToledo | MTD | 1461.57 | 7.77 |
| MicrochipTech | MCHP | 75.23 | 0.09 |
| MicronTech | MU | 53.82 | 0.14 |
| Microsoft | MSFT | 244.37 | -0.75 |
| MidAmApt | MAA | 159.23 | 2.04 |
| Middleby | MIDD | 138.20 | 0.78 |
| MitsubishiUFJ | MUFG | 5.45 | 0.05 |
| MizuhoFin | MFG | 2.45 | 0.05 |
| ▲ **Mobileye** | **MBLY** | **32.13** | **1.64** |
| Moderna | MRNA | 179.00 | 5.46 |
| MolinaHealthcare | MOH | 339.28 | 3.65 |
| MolsonCoorsB | TAP | 53.05 | -0.21 |
| MolsonCoorsA | TAP.A | 70.70 | -1.34 |
| Mondelez | MDLZ | 68.03 | 0.74 |
| **MongoDB** | **MDB** | **178.30** | **33.61** |
| MonolithicPower | MPWR | 367.77 | 3.91 |
| MonsterBev | MNST | 101.23 | -0.21 |
| Moody's | MCO | 290.68 | -1.92 |
| MorganStanley | MS | 87.28 | -0.23 |
| Morningstar | MORN | 238.38 | 3.27 |
| Mosaic | MOS | 47.33 | -0.38 |
| MotorolaSol | MSI | 266.79 | 0.62 |
| MurphyOil | MUR | 42.65 | -0.35 |
| MurphyUSA | MUSA | 296.20 | 10.92 |
| NICE | NICE | 195.72 | 1.89 |
| NIO | NIO | 12.58 | -0.66 |
| NOV | NOV | 20.33 | -0.65 |
| ▼ NRG Energy | NRG | 33.14 | -1.54 |
| NVR | NVR | 4725.00 | 125.00 |
| NXP Semi | NXPI | 163.95 | 0.87 |
| Nasdaq | NDAQ | 64.84 | -2.17 |
| NationalGrid | NGG | 61.99 | -0.21 |
| NatlRetailProp | NNN | 45.75 | -0.17 |
| NatWest | NWG | 6.36 | -0.02 |
| NetApp | NTAP | 62.98 | -0.10 |
| NetEase | NTES | 68.40 | 0.19 |
| Netflix | NFLX | 308.42 | 2.86 |
| Neurocrine | NBIX | 121.51 | 1.30 |
| NewFortressEner | NFE | 46.64 | 0.58 |
| Newmont | NEM | 47.19 | 0.62 |
| NewsCorp B | NWS | 18.47 | -0.26 |
| NewsCorp A | NWSA | 18.20 | -0.28 |
| NexstarMedia | NXST | 181.88 | 2.16 |
| NextEraEnergy | NEE | 85.29 | 0.11 |
| Nike | NKE | 108.33 | 0.40 |
| NiSource | NI | 27.67 | -0.17 |
| Nokia | NOK | 4.82 | -0.05 |
| NomuraHoldings | NMR | 3.58 | 0.01 |
| Nordson | NDSN | 235.14 | 1.55 |
| NorfolkSouthern | NSC | 241.55 | -1.00 |
| NorthernTrust | NTRS | 87.72 | -0.85 |
| NorthropGrum | NOC | 540.21 | 8.40 |
| NorwegCruise | NCLH | 15.46 | -0.37 |
| Novartis | NVS | 91.73 | 0.99 |
| NovoNordisk | NVO | 125.24 | -0.55 |
| Novocure | NVCR | 75.35 | 1.87 |
| NuHoldings | NU | 3.97 | -0.09 |
| Nucor | NUE | 149.80 | -3.18 |
| Nutanix | NTNX | 30.14 | -0.29 |
| Nutrien | NTR | 76.25 | -1.17 |
| nVentElectric | NVT | 38.97 | -0.01 |
| NVIDIA | NVDA | 161.20 | 1.33 |

### O P Q

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| OGE Energy | OGE | 39.49 | -0.41 |
| ONEOK | OKE | 63.85 | 0.25 |
| OReillyAuto | ORLY | 828.79 | -0.87 |
| OccidentalPetrol | OXY | 63.95 | -0.19 |
| Okta | OKTA | 61.66 | -0.23 |
| OldDomFreight | ODFL | 286.65 | -0.47 |
| OldRepublic | ORI | 23.96 | 0.07 |
| Olin | OLN | 55.32 | 0.36 |
| OmegaHealthcare | OHI | 29.24 | -0.70 |
| Omnicom | OMC | 75.67 | -0.46 |
| ON Semi | ON | 70.14 | 0.40 |
| OpenText | OTEX | 27.67 | -0.24 |
| Oracle | ORCL | 78.78 | -0.13 |
| Orange | ORAN | 9.79 | -0.16 |
| Organon | OGN | 26.08 | -0.07 |
| Orix | IX | 80.12 | 1.47 |
| OtisWorldwide | OTIS | 79.00 | -0.19 |
| Ovintiv | OVV | 50.00 | -0.60 |
| OwensCorning | OC | 90.60 | 1.86 |
| PG&E | PCG | 15.57 | 0.14 |
| PLDT | PHI | 29.90 | 0.48 |
| PNC Fin | PNC | 155.10 | 3.24 |
| POSCO | PKX | 55.02 | 0.50 |
| PPG Ind | PPG | 129.44 | -2.60 |
| PPL | PPL | 28.98 | -0.32 |
| PTC | PTC | 121.64 | 0.38 |
| Paccar | PCAR | 104.49 | 0.82 |
| PackagingCpAm | PKG | 135.20 | 0.37 |
| PalantirTech | PLTR | 7.07 | 0.08 |
| PaloAltoNtwks | PANW | 164.69 | -2.00 |
| ParamountB | PARA | 18.01 | -0.14 |
| ParamountA | PARAA | 20.34 | -0.23 |
| ParkerHannifin | PH | 292.06 | 1.97 |
| Paychex | PAYX | 120.44 | -0.19 |
| PaycomSoftware | PAYC | 308.97 | -3.70 |
| Paylocity | PCTY | 197.97 | -2.89 |
| PayPal | PYPL | 74.42 | 2.19 |
| Pearson | PSO | 11.38 | 0.03 |
| PembinaPipeline | PBA | 34.31 | -0.04 |
| PenskeAuto | PAG | 125.57 | -0.46 |
| Pentair | PNR | 44.91 | 0.19 |
| Penumbra | PEN | 220.00 | 3.99 |
| PepsiCo | PEP | 182.18 | 0.55 |
| PerformanceFood | PFGC | 60.05 | -0.05 |
| PerkinElmer | PKI | 139.30 | 2.01 |
| PetroleoBrasil | PBR | 11.08 | -0.01 |
| PetroleoBrasilA | PBR.A | 9.75 | 0.01 |
| Pfizer | PFE | 50.24 | 0.53 |
| PhilipMorris | PM | 101.88 | 0.25 |
| Phillips66 | PSX | 103.01 | -0.07 |
| Pinduoduo | PDD | 85.82 | -1.09 |
| PinnacleWest | PNW | 77.62 | -0.44 |
| Pinterest | PINS | 22.68 | -0.04 |
| PioneerNatRscs | PXD | 229.38 | 3.24 |
| PlainsAllAmPipe | PAA | 11.78 | -0.15 |
| PlainsGP | PAGP | 12.39 | -0.23 |
| PlanetFitness | PLNT | 76.01 | 0.44 |
| PlugPower | PLUG | 13.68 | -0.14 |
| Polaris | PII | 108.13 | -2.96 |
| PolestarAuto | PSNY | 5.89 | 0.22 |
| Pool | POOL | 321.08 | 3.09 |
| PrincipalFin | PFG | 90.24 | 0.45 |
| ProcoreTech | PCOR | 47.35 | 0.59 |
| Procter&Gamble | PG | 150.24 | 0.96 |
| Progressive | PGR | 130.48 | -0.49 |
| Prologis | PLD | 116.00 | 1.40 |
| ProsperityBcshs | PB | 71.86 | 0.15 |
| PrudentialFin | PRU | 102.63 | -0.66 |
| Prudential | PUK | 25.68 | -0.58 |
| PublicServiceEnt | PEG | 59.95 | -0.65 |
| PublicStorage | PSA | 296.82 | 7.83 |
| PulteGroup | PHM | 44.60 | 1.22 |
| PureStorage | PSTG | 28.68 | -0.34 |
| Qiagen | QGEN | 48.89 | 0.19 |
| Qorvo | QRVO | 95.42 | -0.28 |
| Qualcomm | QCOM | 118.21 | -1.57 |
| QuantaServices | PWR | 148.31 | -1.28 |
| QuestDiag | DGX | 149.00 | 0.03 |

### R S

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| RBC Bearings | RBC | 223.73 | 3.86 |
| RELX | RELX | 28.47 | 0.15 |
| RPM | RPM | 102.95 | 0.23 |
| RalphLauren | RL | 109.78 | -1.04 |
| RaymondJames | RJF | 113.91 | -2.16 |
| RaytheonTech | RTX | 99.04 | 0.31 |
| RealtyIncome | O | 63.57 | 0.86 |
| RegalRexnord | RRX | 120.25 | 0.08 |
| RegencyCtrs | REG | 65.75 | 0.36 |
| RegenPharm | REGN | 764.27 | 16.80 |
| RegionsFin | RF | 21.59 | 0.19 |
| ReinsGrp | RGA | 145.21 | -0.85 |
| RelianceSteel | RS | 208.73 | 0.24 |
| RenaissanceRe | RNR | 182.30 | -6.55 |
| RentokilInit | RTO | 32.67 | 0.12 |
| Repligen | RGEN | 170.33 | 1.20 |
| RepublicSvcs | RSG | 135.57 | -1.33 |
| ResMed | RMD | 222.18 | 4.45 |
| RestaurantBrands | QSR | 65.93 | 0.43 |
| RexfordIndlRealty | REXR | 53.96 | 0.52 |
| ReynoldsCnsmr | REYN | 31.67 | 0.08 |
| RioTinto | RIO | 69.85 | -0.49 |
| Rivian | RIVN | 27.94 | 0.05 |
| RobertHalf | RHI | 73.89 | 0.04 |
| Robinhood | HOOD | 9.26 | -0.13 |
| Roblox | RBLX | 30.77 | 0.12 |
| RocketCos. | RKT | 8.31 | 0.05 |
| Rockwell | ROK | 254.77 | -2.00 |
| RogersComm B | RCI | 45.43 | -0.38 |
| Roku | ROKU | 51.22 | 0.02 |
| Rollins | ROL | 39.48 | 0.27 |
| RoperTech | ROP | 434.22 | 0.16 |
| RossStores | ROST | 115.36 | -1.17 |
| RoyalBkCanada | RY | 96.63 | -0.22 |
| RoyalCaribbean | RCL | 56.54 | -1.09 |
| RoyalGold | RGLD | 111.60 | 0.93 |
| RoyaltyPharma | RPRX | 42.13 | 0.20 |
| RyanSpecialty | RYAN | 40.66 | -0.43 |
| Ryanair | RYAAY | 75.24 | -0.83 |
| SAP | SAP | 107.87 | 0.10 |
| S&P Global | SPGI | 351.52 | -0.17 |
| SBA Comm | SBAC | 287.70 | -0.98 |
| SEI Investments | SEIC | 60.54 | -1.23 |
| SK Telecom | SKM | 21.18 | 0.10 |
| SS&C Tech | SSNC | 50.47 | -0.23 |
| StoreCapital | STOR | 32.00 | 0.12 |
| ▼ SVB Fin | SIVB | 208.28 | 8.02 |
| ▼ Salesforce | CRM | 130.48 | -2.79 |
| Sanofi | SNY | 47.94 | -0.61 |
| SareptaTherap | SRPT | 119.76 | -0.34 |
| Sasol | SSL | 15.54 | -0.39 |
| Schlumberger | SLB | 49.80 | -1.08 |
| SchwabC | SCHW | 80.19 | -0.40 |
| ScienceApplicat | SAIC | 112.51 | -2.65 |
| Sea | SE | 58.10 | -1.66 |
| Seagate | STX | 52.57 | 0.37 |
| Seagen | SGEN | 119.36 | 1.45 |
| SealedAir | SEE | 52.39 | -0.37 |
| Sempra | SRE | 162.42 | -2.93 |
| SensataTechs | ST | 43.77 | -0.18 |
| ServiceCorp | SCI | 68.93 | -0.64 |
| ServiceNow | NOW | 388.52 | -0.63 |
| ShawComm B | SJR | 26.95 | -0.01 |
| Shell | SHEL | 56.35 | -0.33 |
| SherwinWilliams | SHW | 251.12 | -2.34 |
| ShinhanFin | SHG | 28.24 | -0.38 |
| ShockwaveMed | SWAV | 233.60 | 0.90 |
| Shopify | SHOP | 38.49 | -0.48 |
| Sibanye-Stillwater | SBSW | 10.97 | 0.14 |
| ▼ SignatureBank | SBNY | 116.99 | -1.87 |
| SignifyHealth | SGFY | 28.67 | -0.02 |
| SimonProperty | SPG | 119.05 | 0.79 |
| SiriusXM | SIRI | 6.20 | 0.05 |
| SkechersUSA | SKX | 42.51 | -0.43 |
| Skyworks | SWKS | 91.96 | -0.28 |
| SmithAO | AOS | 59.27 | -0.10 |
| Smith&Nephew | SNN | 26.87 | 0.38 |
| ▲ Smucker | SJM | 155.68 | 2.13 |
| Snap | SNAP | 9.30 | -0.12 |
| SnapOn | SNA | 236.23 | -0.87 |
| Snowflake | SNOW | 137.41 | 0.68 |
| SOQUIMICH | SQM | 95.45 | 1.42 |
| SolarEdgeTech | SEDG | 310.79 | 11.81 |
| Sony | SONY | 79.04 | -0.43 |
| Southern | SO | 68.50 | 0.02 |
| SoCopper | SCCO | 60.03 | -0.83 |
| SouthwestAir | LUV | 37.81 | -1.87 |
| SouthwesternEner | SWN | 6.04 | 0.04 |
| Splunk | SPLK | 83.72 | -0.88 |
| Spotify | SPOT | 75.72 | 0.56 |
| StanleyBlackDck | SWK | 77.25 | -0.48 |
| Starbucks | SBUX | 101.87 | -0.21 |
| **StateStreet** | **STT** | **80.45** | **6.09** |
| ▲ SteelDynamics | STLD | 107.60 | -0.67 |
| Stellantis | STLA | 15.21 | 0.04 |
| Steris | STE | 185.56 | 1.99 |
| StifelFinancial | SF | 60.20 | -0.93 |
| STMicroelec | STM | 37.69 | -0.07 |
| Stryker | SYK | 242.08 | 6.54 |
| SumitomoMits | SMFG | 6.77 | 0.05 |
| SunComms | SUI | 141.86 | 0.65 |
| SunLifeFinancial | SLF | 46.12 | -0.20 |
| SuncorEnergy | SU | 29.78 | -0.19 |
| Suzano | SUZ | 10.11 | 0.02 |
| Symbotic | SYM | 11.46 | -0.22 |
| SynchronyFin | SYF | 34.63 | -0.01 |
| Synopsys | SNPS | 323.80 | -4.22 |
| Sysco | SYY | 84.19 | -0.07 |

### T U V

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| TC Energy | TRP | 42.52 | -0.04 |
| TD Synnex | SNX | 96.60 | -0.80 |
| TE Connectivity | TEL | 121.56 | 0.73 |
| Telus | TU | 20.88 | -0.10 |
| TFI Intl | TFII | 101.71 | 0.53 |
| TJX | TJX | 79.40 | 0.04 |
| T-MobileUS | TMUS | 148.79 | -0.60 |
| TPG | TPG | 31.73 | 0.07 |
| TRowePrice | TROW | 121.25 | -0.08 |
| TaiwanSemi | TSM | 79.24 | -0.32 |
| TakeTwoSoftware | TTWO | 99.49 | -1.78 |
| TakedaPharm | TAK | 14.69 | 0.13 |
| Tapestry | TPR | 36.75 | -0.54 |
| TargaResources | TRGP | 68.57 | -1.08 |
| Target | TGT | 153.76 | -1.29 |
| TataMotors | TTM | 24.91 | -0.28 |
| TeckRscsB | TECK | 36.30 | -0.43 |
| TeledyneTech | TDY | 411.13 | -2.13 |
| Teleflex | TFX | 240.32 | 4.35 |
| Ericsson | ERIC | 6.33 | -0.05 |
| TelefonicaBras | VIV | 7.32 | 0.06 |
| Telefonica | TEF | 3.64 | -0.03 |
| TelekmIndonesia | TLK | 23.44 | 0.07 |
| Tenaris | TS | 32.24 | -0.36 |
| TencentMusic | TME | 7.34 | -0.28 |
| Teradyne | TER | 91.36 | 0.97 |
| Tesla | TSLA | 174.04 | -5.78 |
| TetraTech | TTEK | 152.30 | -0.85 |
| TevaPharm | TEVA | 8.45 | -0.10 |
| TexasInstruments | TXN | 173.75 | -0.59 |
| TexasPacLand | TPL | 2437.81 | -31.92 |
| TexasRoadhouse | TXRH | 97.21 | 1.64 |
| Textron | TXT | 72.57 | -1.00 |
| ThermoFisher | TMO | 558.14 | 7.61 |
| ThomsonReuters | TRI | 115.01 | 0.84 |
| 3M | MMM | 126.35 | 1.77 |
| Toast | TOST | 17.22 | 0.50 |
| Toro | TTC | 110.19 | 0.41 |
| TorontoDomBk | TD | 65.38 | -0.65 |
| TotalEnergies | TTE | 59.25 | -0.87 |
| ToyotaMotor | TM | 141.86 | 0.77 |
| TractorSupply | TSCO | 217.34 | 0.21 |
| TradeDesk | TTD | 47.77 | 0.32 |
| Tradeweb | TW | 64.35 | -0.40 |
| TraneTech | TT | 175.39 | 2.27 |
| TransDigm | TDG | 609.69 | 2.24 |
| TransUnion | TRU | 58.76 | 0.10 |
| ▲ Travelers | TRV | 188.05 | -0.45 |
| Trimble | TRMB | 57.48 | -1.06 |
| Trip.com | TCOM | 32.27 | -0.84 |
| TruistFinl | TFC | 41.84 | -0.05 |
| Twilio | TWLO | 45.30 | -0.28 |
| TylerTech | TYL | 308.83 | -5.24 |
| TysonFoods | TSN | 63.74 | -0.41 |
| UBS Group | UBS | 18.23 | -0.06 |
| UDR | UDR | 39.41 | -0.14 |
| UGI | UGI | 38.73 | 0.19 |
| US Foods | USFD | 35.23 | -0.29 |
| UWM | UWMC | 4.63 | -0.10 |
| Uber | UBER | 26.40 | -0.52 |
| Ubiquiti | UI | 281.96 | -3.32 |
| UiPath | PATH | 12.56 | 0.12 |
| ▲ UltaBeauty | ULTA | 480.05 | 14.47 |
| Unilever | UL | 50.82 | -0.35 |
| UnionPacific | UNP | 212.22 | 1.08 |
| UnitedAirlines | UAL | 44.06 | -1.86 |
| UnitedMicro | UMC | 7.16 | -0.02 |
| UPS B | UPS | 174.67 | -0.43 |
| UnitedRentals | URI | 351.52 | 4.23 |
| US Bancorp | USB | 43.56 | 0.62 |
| US Steel | X | 26.65 | -0.55 |
| UnitedTherap | UTHR | 277.08 | 0.48 |
| UnitedHealth | UNH | 542.91 | 3.59 |
| UnitySoftware | U | 33.77 | -0.55 |
| UniversalHealthB | UHS | 128.12 | 0.17 |
| UnumGroup | UNM | 41.06 | -0.92 |
| VF | VFC | 28.97 | -0.42 |
| VICI Prop | VICI | 33.73 | 0.19 |
| VailResorts | MTN | 246.92 | 0.24 |
| Vale | VALE | 16.17 | -0.59 |
| ValeroEnergy | VLO | 120.19 | 1.33 |
| ValmontInds | VMI | 327.79 | -4.17 |
| VeevaSystems | VEEV | 165.31 | -3.22 |
| Ventas | VTR | 43.82 | -1.21 |
| VeriSign | VRSN | 195.99 | -1.46 |
| VeriskAnalytics | VRSK | 182.96 | 0.92 |
| Verizon | VZ | 37.17 | 0.28 |
| VertexPharm | VRTX | 317.58 | 5.77 |
| Viatris | VTRS | 10.90 | -0.03 |
| ▲ Vipshop | VIPS | 12.59 | -0.19 |
| Visa | V | 207.81 | -1.27 |
| Vistra | VST | 23.64 | -0.08 |
| VMware | VMW | 118.16 | -0.46 |
| ▼ Vodafone | VOD | 10.68 | -0.18 |
| VulcanMatls | VMC | 179.10 | 1.15 |

### W X Y Z

| Stock | Sym | Close | Net Chg |
|---|---|---|---|
| WEC Energy | WEC | 94.59 | -0.83 |
| WEX | WEX | 161.46 | 0.84 |
| W.P.Carey | WPC | 79.06 | -0.59 |
| WPP | WPP | 51.34 | -0.45 |
| Wabtec | WAB | 100.91 | 0.48 |
| WalgreensBoots | WBA | 40.65 | 0.06 |
| Walmart | WMT | 149.11 | -0.78 |
| WarnerBrosA | WBD | 10.74 | 0.13 |
| WarnerMusic | WMG | 33.00 | -0.25 |
| WasteConnections | WCN | 140.36 | -0.56 |
| WasteMgt | WM | 165.21 | -0.35 |
| Waters | WAT | 340.64 | 3.05 |
| Watsco | WSO | 256.66 | 2.75 |
| WebsterFin | WBS | 48.03 | 0.08 |
| WellsFargo | WFC | 42.45 | -0.95 |
| Welltower | WELL | 65.00 | -3.20 |
| WestPharmSvcs | WST | 235.89 | 0.90 |
| WestAllianceBcp | WAL | 60.12 | -0.82 |
| WesternDigital | WDC | 34.14 | 0.25 |
| WesternMidstrm | WES | 25.86 | -0.85 |
| Westlake | WLK | 106.66 | 0.31 |
| WestRock | WRK | 35.94 | -0.51 |
| Weyerhaeuser | WY | 31.69 | 0.67 |
| WheatonPrecMet | WPM | 39.42 | 0.61 |
| Whirlpool | WHR | 142.76 | 0.90 |
| Williams | WMB | 33.79 | 0.32 |
| Williams-Sonoma | WSM | 111.80 | 0.09 |
| WillisTowers | WTW | 244.19 | -2.61 |
| WillScotMobile | WSC | 46.98 | -0.01 |
| Wipro | WIT | 4.90 | -0.02 |
| Wolfspeed | WOLF | 81.37 | 0.60 |
| WoodsideEnergy | WDS | 23.81 | -0.12 |
| WooriFin | WF | 28.41 | -0.38 |
| Workday | WDAY | 164.72 | 3.36 |
| WynnResorts | WYNN | 84.96 | -0.45 |
| XP | XP | 16.58 | -0.36 |
| XcelEnergy | XEL | 68.87 | -0.45 |
| **XPeng** | **XPEV** | **11.00** | **-0.69** |
| Xylem | XYL | 110.98 | 0.17 |
| YumBrands | YUM | 128.27 | -2.35 |
| YumChina | YUMC | 55.60 | -1.42 |
| ZTO Express | ZTO | 25.00 | -0.63 |
| ZebraTech | ZBRA | 252.54 | -1.67 |
| Zillow A | ZG | 35.05 | -1.31 |
| Zillow C | Z | 35.62 | -1.30 |
| ZimmerBiomet | ZBH | 124.19 | 2.80 |
| ▼ ZionsBancorp | ZION | 47.05 | -0.09 |
| Zoetis | ZTS | 150.25 | -2.80 |
| ZoomVideo | ZM | 69.87 | -1.60 |
| ZoomInfoTech | ZI | 28.33 | 0.36 |
| ▼ Zscaler | ZS | 114.24 | -1.73 |

## Dividend Changes

**KEY: A: annual; M: monthly; Q: quarterly; r: revised; SA: semiannual; S2:1: stock split and ratio; SO: spin-off.**

| Company | Symbol | Yld % | Amount New/Old | Frq | Payable / Record |
|---|---|---|---|---|---|
| **Increased** | | | | | |
| Hanover Insurance Grp | THG | 2.3 | .81 /.75 | Q | Dec30 /Dec15 |
| SEI Investments | SEIC | 1.4 | .43 /.40 | SA | Jan05 /Dec19 |
| **Reduced** | | | | | |
| Greif B | GEF.B | 3.8 | .74 /.75 | Q | Jan01 /Dec16 |
| **Stocks** | | | | | |
| MediWound | MDWD | | 1:7 | | /Dec20 |
| **Foreign** | | | | | |
| Epsilon Energy | EPSN | 3.8 | .0625 | Q | Dec30 /Dec15 |
| Ferguson | FERG | 2.8 | .75 | SA | Feb03 /Dec16 |
| Pembina Pipeline | PBA | 5.6 | .1614 | M | Dec30 /Dec15 |
| Signet Jewelers | SIG | 1.1 | .20 | Q | Feb24 /Jan27 |
| Suzano ADR | SUZ | 4.4 | .11598 | A | Jan09 /Dec20 |
| **Special** | | | | | |
| Buckle | BKE | 3.1 | 2.65 | | Jan27 /Jan13 |

Sources: FactSet; Dow Jones Market Data

## IPO Scorecard

Performance of IPOs, most-recent listed first

| Company SYMBOL IPO date/Offer price | Wed's close ($) | % Chg From Offer price | % Chg From 1st-day close |
|---|---|---|---|
| Adamas One **JEWL** Dec. 7/$4.50 | 4.50 | **...** | ... |
| Acrivon Thera **ACRV** Nov. 15/$12.50 | 12.62 | **1.0** | –24.2 |
| Atour Lifestyle Hldgs **ATAT** Nov. 11/$11.00 | 14.89 | **35.4** | 15.6 |
| ASP Isotopes **ASPI** Nov. 10/$4.00 | 1.65 | **–58.8** | –38.2 |
| Plutonian Acquisition **PLTNU** Nov. 10/$10.00 | 10.09 | **0.9** | 0.6 |
| Snail **SNAL** Nov. 10/$5.00 | 2.26 | **–54.8** | 0.4 |
| Mobileye Global **MBLY** Oct. 26/$21.00 | 32.13 | **53.0** | 10.9 |
| Prime Medicine **PRME** Oct. 20/$17.00 | 16.86 | **–0.8** | 9.7 |
| Hudson Acquisition I **HUDAU** Oct. 14/$10.00 | 10.15 | **1.5** | 1.4 |
| TenX Keance Acquisition **TENKU** Oct. 14/$10.00 | 10.15 | **1.5** | 1.2 |

Sources: Dow Jones Market Data; FactSet

## New Highs and Lows

The following explanations apply to the New York Stock Exchange, NYSE Arca, NYSE American and Nasdaq Stock Market stocks that hit a new 52-week intraday high or low in the latest session. **% CHG**-Daily percentage change from the previous trading session.

**Wednesday, December 7, 2022**

### Highs

| Stock | Sym | 52-Wk Hi/Lo | % Chg |
|---|---|---|---|
| ABG Acqn I | ABGI | 10.06 | ... |
| ADMA Biologics | ADMA | 3.54 | 8.8 |
| AcademySports | ASO | 57.57 | 15.4 |
| AccelerateAcqn | AAQC.U | 10.07 | 0.1 |
| AceGlblBus | ACBA | 10.65 | 0.2 |
| AdaraAcqnA | ADRA | 10.12 | 0.6 |
| AirspanNtwksWtB | MIMO.WS.B | 13.73 | 22.7 |
| ApolloStratII A | APGB | 10.04 | ... |
| AstreaAcqnA | ASAX | 10.05 | ... |
| AultDisruptive | ADRT | 10.20 | 0.2 |
| AuraFatProjectsA | AFAR | 10.22 | 0.3 |
| AuroraAcqnA | AURC | 10.01 | ... |
| AuroraTechA | ATAK | 10.18 | ... |
| bleuacaciaA | BLEU | 10.02 | -0.1 |
| CF Acqn IV A | CFIV | 10.05 | ... |
| CPI Card | PMTS | 29.10 | 5.0 |
| CampbellSoup | CPB | 56.24 | 6.0 |
| CaseysGenStores | CASY | 248.43 | 7.4 |
| Cigna | CI | 332.90 | 0.8 |
| ClassAccel | CLAS.U | 10.06 | 0.2 |
| ClassAccelA | CLAS | 10.08 | 0.4 |
| Colicity | COLIU | 10.06 | ... |
| CommercialMetals | CMC | 50.83 | -0.9 |
| ConagraBrands | CAG | 38.45 | 1.8 |
| ConstellationI A | CSTA | 10.08 | 0.1 |
| CornerGrowth2 A | TRON | 10.80 | 5.1 |
| DHB Capital | DHBCU | 10.18 | 0.4 |
| DigitalTransform | DTOCU | 9.97 | 0.2 |
| DirectSellingA | DSAQ | 10.25 | 0.1 |
| Disruptive I A | DISA | 10.07 | ... |
| dMYSquaredWt | DMYY.WS | 0.22 | 39.8 |
| EQ Health A | EQHA | 10.08 | 0.4 |
| EdifyAcqnA | EAC | 10.06 | 0.1 |
| EsperionTherap | ESPR | 8.87 | -14.9 |
| EverestConsolA | MNTN | 10.20 | 0.4 |
| EvergreenA | EVGR | 10.25 | 0.4 |
| FastAcqnII A | FZT | 9.96 | -0.1 |
| FtacHeraA | HERA | 10.05 | ... |
| FinTechEvol | FTEV.U | 10.05 | 0.1 |
| FrontierInvtA | FICV | 9.99 | 0.1 |
| GardinerHlthcr | GDNR | 10.16 | 0.2 |
| GeneralMills | GIS | 87.30 | 2.2 |
| GenieEnergyPfd | GNEpA | 10.13 | 1.5 |
| GettyRealty | GTY | 33.99 | 0.4 |
| GlblConsumerA | GACQ | 11.35 | 20.0 |
| GlobalinkInvt | GLLI | 10.05 | ... |
| GlycoMimetics | GLYC | 2.51 | 9.5 |
| GoldenFalconA | GFX | 10.07 | 0.2 |
| GoresIX Wt | GHIXW | 1.00 | 24.7 |
| GpoAeroportSur | ASR | 252.67 | -0.2 |
| HVBancorp | HVBC | 27.41 | 0.6 |
| IBEX | IBEX | 27.63 | 1.8 |
| IberePharmA | IBER | 10.05 | 0.1 |
| IntegratedWellA | WEL | 10.25 | ... |
| Intevac | IVAC | 6.15 | ... |
| J.Jill | JILL | 27.14 | 14.1 |
| JuniperII A | JUN | 10.22 | -0.1 |
| Mobileye | MBLY | 33.95 | 5.4 |
| MonumentCircle | MONCU | 10.13 | 0.8 |
| MonumentCircleA | MON | 10.06 | 0.1 |
| MountRainier | RNER | 10.28 | 0.4 |
| NewVistaAcqnA | NVSA | 10.04 | 0.2 |
| NewburyStreetA | NBST | 9.97 | 0.1 |
| NorthernStrIV A | NSTD | 10.02 | 0.2 |
| NorthernStarIV | NSTD.U | 10.01 | 0.1 |
| NorthViewAcqn | NVAC | 10.04 | 0.3 |
| NorwoodFin | NWFL | 34.17 | 2.4 |
| OPYAcqnIA | OHAA | 10.06 | ... |
| OrrstownFinSvcs | ORRF | 28.42 | -1.2 |
| ParabellumAcqn | PRBM | 10.19 | 0.2 |
| PathfinderA | PFDR | 10.00 | 0.1 |
| PeoplesBncpNC | PEBK | 31.42 | ... |
| PowellIndustries | POWL | 35.00 | 6.4 |
| PrimaveraCapA | PV | 10.30 | 3.7 |
| PrometheusBio | RXDX | 111.99 | 165.7 |
| PropSolnsII | PSAGU | 10.02 | 0.1 |
| PropSolnsII A | PSAG | 10.06 | 0.6 |
| ProSomnusWt | OSAAW | 0.90 | 37.9 |
| PyrophyteAcqn | PHYT.U | 10.30 | 0.2 |
| PyxisTankers | PXS | 5.99 | ... |
| QuantumFin | QFTA | 9.96 | 0.1 |
| RCF Acqn | RCFA.U | 10.24 | 0.1 |
| RF Acqn A | RFAC | 10.03 | 0.2 |
| RXR Acqn | RXRAU | 10.10 | 0.1 |
| SDCLEDGEAcqn | SEDA | 10.02 | ... |
| ST Ener I | STET.U | 10.18 | 0.2 |
| SizzleAcqn | SZZLU | 10.45 | 0.5 |
| Slam | SLAMU | 10.08 | 0.1 |
| SlamA | SLAM | 10.08 | 0.2 |
| Smucker | SJM | 156.34 | 1.4 |
| SpringwaterSpec | SWSS | 10.11 | 0.4 |
| SteelDynamics | STLD | 110.35 | -0.6 |
| Tiptree | TIPT | 14.93 | 2.7 |
| TrajectoryAlphaA | TCOA | 10.02 | ... |
| Travelers | TRV | 191.16 | -0.2 |
| TristarAcqnI | TRIS | 10.09 | 0.1 |
| Tuniu | TOUR | 1.80 | 20.5 |
| US Lime&Min | USLM | 152.77 | 3.4 |
| UltaBeauty | ULTA | 480.57 | 3.1 |
| UTStarcom | UTSI | 5.00 | -1.5 |
| VectoIQ II | VTIQU | 10.08 | ... |
| VelocityAcqnA | VELO | 10.07 | 0.1 |
| VenusAcqn | VENAU | 12.70 | 1.4 |
| Vipshop | VIPS | 12.81 | -1.5 |
| ViscogliosiBros | VBOC | 10.06 | 0.1 |
| VisionSensingA | VSAC | 10.26 | 0.7 |
| WarburgPincusI-B A | WPCB | 10.05 | 0.1 |
| WelsbachTech | WTMA | 10.07 | 0.1 |
| WestrockCoffeeWt | WESTW | 2.31 | 21.7 |
| WestrockCoffee | WEST | 14.54 | 3.5 |
| WillisLease | WLFC | 52.31 | -0.8 |

### Lows

| Stock | Sym | 52-Wk Hi/Lo | % Chg |
|---|---|---|---|
| AC Immune | ACIU | 2.01 | -10.0 |
| ADC Therap | ADCT | 2.75 | -15.8 |
| AGBA | AGBA | 2.35 | -2.5 |
| AMC Ent Pfd A | APE | 0.80 | -8.9 |
| AMC Networks | AMCX | 17.18 | -2.8 |
| Ammo | POWW | 1.92 | -1.5 |
| ASP Isotopes | ASPI | 1.63 | -17.9 |
| AST Space | ASTS | 4.33 | -6.8 |
| ATI PhysTherapy | ATIP | 0.30 | -7.3 |
| AcastiPharma | ACST | 0.37 | -1.9 |
| AchillesTherap | ACHL | 1.31 | -6.7 |
| Addentax | ATXG | 1.50 | -2.5 |
| AddexTherap | ADXN | 0.55 | -12.6 |
| ADialPharm | ADIL | 0.22 | -3.5 |
| AdvHumanImaging | AHI | 0.35 | 4.6 |
| Aemetis | AMTX | 4.19 | -7.4 |
| AethlonMedical | AEMD | 0.38 | -4.6 |
| AffirmHldgs | AFRM | 11.23 | -5.2 |
| AgriforceWt | AGRIW | 0.15 | -42.3 |
| AlkidoPharma | AIKI | 3.31 | 3.2 |
| AirNetTech | ANTE | 0.50 | -10.1 |
| AlimeraSciences | ALIM | 3.11 | -1.8 |
| Alithya | ALYA | 1.58 | -3.1 |
| Allot | ALLT | 3.45 | -0.9 |
| AlphaTauMed | DRTS | 3.71 | -3.4 |
| AltEnergyWt | AEAEW | 0.04 | 60.2 |
| Alteryx | AYX | 39.55 | 6.3 |
| Apexigen | APGN | 1.03 | -12.8 |
| AppliedUVPfdA | AUVIP | 21.98 | -2.1 |
| Applovin | APP | 10.58 | -2.8 |
| Appreciate | SFR | 4.10 | -18.3 |
| AquaMetals | AQMS | 0.67 | -3.2 |
| ArcherAviation | ACHR | 2.18 | -2.2 |
| Arcimoto | FUV | 5.30 | -17.5 |
| ArgoBlockchain | ARBK | 0.65 | -2.3 |
| ArmataPharm | ARMP | 1.84 | 1.6 |
| ArmstrongWorld | AWI | 70.50 | -1.1 |
| Arrival | ARVL | 0.26 | -8.2 |
| Arteris | AIP | 3.96 | 2.0 |
| AssemblyBiosci | ASMB | 1.05 | -6.8 |
| AstraSpace | ASTR | 0.45 | -2.7 |
| AstreaAcqnWt | ASAXW | 0.00 | -33.3 |
| Atomera | ATOM | 6.91 | -0.4 |
| AtossaTherap | ATOS | 0.63 | -6.8 |
| Atreca | BCEL | 0.85 | -9.8 |
| aTyrPharma | LIFE | 2.00 | -2.4 |
| Audacy | AUD | 0.26 | -6.7 |
| AudioCodes | AUDC | 17.83 | -3.3 |
| AvalonGloboCare | ALBT | 0.31 | -6.9 |
| AvidityBio | RNA | 9.83 | 3.8 |
| AziyoBiologics | AZYO | 3.51 | -3.0 |
| Bio-key | BKYI | 0.85 | -5.2 |
| BM Tech | BMTX | 4.79 | 4.0 |
| BRC | BRCC | 5.77 | -2.4 |
| BarfreshFood | BRFH | 1.00 | -3.8 |
| BeardEnerWt | BRD.WS | 0.03 | -16.3 |
| BeasleyBroadcast | BBGI | 0.93 | -1.3 |
| BerkshireGrey | BGRY | 0.81 | -6.8 |
| BetterChoice | BTTR | 0.62 | -4.1 |
| BeyondSpring | BYSI | 0.54 | -0.9 |
| BigBear.aiWt | BBAI.WS | 0.04 | -21.4 |
| Biocept | BIOC | 0.67 | -4.9 |
| Biolase | BIOL | 0.75 | -2.8 |
| BiomXWt | PHGE.WS | 0.01 | -41.3 |
| BioraTherap | BIOR | 0.19 | -11.7 |
| BitDigital | BTBT | 0.73 | -6.3 |
| Bitfarms | BITF | 0.48 | -2.4 |
| BitNile | NILE | 0.11 | -8.2 |
| Blackstone | BX | 77.15 | -1.4 |
| bleuacaciaWt | BLEUW | 0.02 | ... |
| BlockchainCoinWt | BCSAW | 0.02 | -60.3 |
| BlueApron | APRN | 0.74 | -4.4 |
| BlueStarFoods | BSFC | 0.52 | 3.7 |
| BluejayDiag | BJDX | 0.60 | -1.5 |
| BorqsTechs | BRQS | 0.25 | -28.5 |
| BostonProps | BXP | 64.43 | -0.5 |
| Brainsway | BWAY | 1.64 | -5.1 |
| BridgeInvt | BRDG | 13.31 | -2.6 |
| Brightcove | BCOV | 5.12 | -1.2 |
| BroadmarkRealty | BRMK | 3.74 | 1.3 |
| BrookdaleSrUn | BKDT | 47.61 | -6.9 |
| BrookfieldBus | BBUC | 19.61 | 1.4 |
| BrookfieldBusPtr | BBU | 17.13 | -1.2 |
| BrookfieldWi | BNw | 35.00 | -1.8 |
| BrookfieldRenew | BEP | 27.26 | -0.1 |
| BrunswickNts2049 | BCpB | 23.45 | -2.3 |
| BruushOralCare | BRSH | 0.47 | -47.0 |
| BurgerFiIntlWt | BFIIW | 0.08 | -18.2 |
| BuzzFeed | BZFD | 1.02 | -2.8 |
| CASI Pharm | CASI | 1.75 | -3.8 |
| CFSB Bancorp | CFSB | 8.55 | -0.1 |
| CNS Pharm | CNSP | 2.20 | -5.6 |
| CS Disco | LAW | 6.56 | -2.2 |
| CadizPfdA | CDZIP | 10.00 | -0.2 |
| Caesarstone | CSTE | 6.00 | -1.6 |
| CalitheraBiosci | CALA | 1.60 | -10.5 |
| CamberEnergy | CEI | 0.09 | -5.1 |
| CareMaxWt | CMAXW | 0.32 | -21.3 |
| CareMax | CMAX | 3.14 | -3.1 |
| CarLotz | LOTZ | 0.15 | -5.3 |
| Carvana | CVNA | 3.55 | -42.9 |
| Cazoo | CZOO | 0.23 | 0.3 |
| Cel-Sci | CVM | 2.30 | -7.8 |
| CellectarBiosci | CLRB | 1.59 | ... |
| CenntroElec | CENN | 0.48 | -6.6 |
| ChinaNaturalRscs | CHNR | 0.33 | -3.7 |
| ChinaSXTPharm | SXTC | 0.52 | -7.5 |
| CityOfficePfdA | CIOpA | 18.13 | -0.1 |
| CleanSpark | CLSK | 1.97 | -1.0 |
| ClearSignTech | CLIR | 0.54 | 0.1 |
| ClovisOncology | CLVS | 0.22 | -11.3 |
| CodexDNA | DNAY | 1.08 | -7.4 |
| CoinbaseGlbl | COIN | 40.55 | -2.7 |
| Colonnade II Wt | CLAA.WS | 0.02 | -4.0 |
| CompoSecure | CMPO | 4.36 | -2.9 |
| Comstock | LODE | 0.30 | -4.4 |
| ConsldComm | CNSL | 4.00 | -4.5 |
| ContextLogic | WISH | 0.60 | -3.1 |
| ContraFect | CFRX | 0.13 | -7.9 |
| CoreScientific | CORZ | 0.11 | -2.8 |
| Crexendo | CXDO | 1.89 | -2.6 |
| Cyanotech | CYAN | 1.13 | -6.5 |
| Cybin | CYBN | 0.32 | -4.4 |
| CyclacelPharm | CYCC | 0.66 | -6.7 |
| CyteirTherap | CYT | 1.26 | -0.8 |
| Daktronics | DAKT | 1.46 | -39.2 |
| Danaos | DAC | 51.10 | -1.5 |
| DanimerScientific | DNMR | 1.88 | -4.0 |
| DeltaApparel | DLA | 11.03 | -5.7 |
| DermataTherap | DRMA | 0.18 | -2.5 |
| Despegar.com | DESP | 4.71 | -3.6 |
| DieboldNixdorf | DBD | 1.84 | -5.2 |
| DigitalTransWt | DTOCW | 0.03 | 38.9 |
| DolphinEnt | DLPN | 2.26 | -3.1 |
| DomaWt | DOMA.WS | 0.01 | -69.8 |
| DouglasEmmett | DEI | 15.08 | -1.5 |
| DuluthHoldings | DLTH | 6.00 | 0.2 |
| DyadicIntl | DYAI | 1.28 | -6.5 |
| EBET | EBET | 0.53 | -5.2 |
| E-HomeHousehold | EJH | 0.49 | -1.7 |
| ESSTech | GWH | 2.52 | -7.7 |
| Ecoark | ZEST | 0.48 | -3.8 |
| EdibleGarden | EDBL | 0.27 | -7.6 |
| EditasMedicine | EDIT | 9.23 | 3.0 |
| EffectorTherap | EFTR | 0.38 | 0.9 |
| ElectraBatteryMtls | ELBM | 2.03 | -6.3 |
| ElectraVehicles | SOLO | 0.99 | -2.9 |
| ElliottOppIIWt | EOCW.WS | 0.06 | -25.8 |
| EmbarkTech | EMBK | 3.21 | -11.9 |
| Emcore | EMKR | 1.23 | -4.6 |
| EnergyVault | NRGV | 2.62 | -1.4 |
| EngageSmart | ESMT | 15.01 | 0.8 |
| EnsysceBio | ENSC | 1.00 | -53.4 |
| Equillium | EQ | 1.49 | -8.4 |
| EveHoldingWt | EVEX.WS | 0.18 | -13.1 |
| EverCommerce | EVCM | 5.87 | -2.1 |
| Everi | EVRI | 14.46 | -2.7 |
| ExelaTech | XELA | 0.14 | -7.9 |
| Exicure | XCUR | 0.86 | -13.9 |
| FarPeakAcqnWt | FPAC.WS | 0.05 | -17.5 |
| Farfetch | FTCH | 4.56 | -5.0 |
| Ferroglobe | GSM | 4.04 | -3.3 |
| FreelineTherap | FRLN | 0.55 | -3.4 |
| FreshTracks | FRTX | 1.60 | -3.6 |
| FreshVineWine | VINE | 1.36 | -6.5 |
| GMedInnov | GMVD | 2.16 | -11.4 |
| Galapagos | GLPG | 37.63 | -1.3 |
| GamidaCell | GMDA | 1.28 | -3.7 |
| Generac | GNRC | 89.90 | -3.8 |
| GeniusGroup | GNS | 0.35 | -7.6 |
| GinkgoBioworks | DNA | 1.64 | 2.3 |
| GinkgoBioworksWt | DNA.WS | 0.26 | 0.7 |
| GlblConsumerWt | GACQW | 0.00 | -90.9 |
| GlobusMaritime | GLBS | 1.08 | -2.7 |
| GoldenSunEduc | GSUN | 1.13 | 6.5 |
| GoresVIII Wt | GIIXW | 0.00 | -61.9 |
| GossamerBio | GOSS | 1.73 | -8.5 |
| GreatElmNts2027 | GEGGL | 14.63 | -3.9 |
| GreenidgeGen | GREE | 0.48 | -0.9 |
| GromSocialEnts | GROM | 0.10 | -27.5 |
| GroveCollab | GROV | 0.48 | -7.6 |
| GrupoTelevisa | TV | 4.89 | ... |
| Hookipa | HOOK | 0.80 | -2.8 |
| HTG Molecular | HTGM | 0.20 | -12.7 |
| HallmarkFin | HALL | 0.58 | -4.5 |
| Hanesbrands | HBI | 6.20 | -0.2 |
| HarborCustom | HCDI | 0.53 | -1.4 |
| Heliogen | HLGN | 0.79 | -6.7 |
| Herbalife | HLF | 12.04 | -3.4 |
| HiveBlockchain | HIVE | 1.84 | -3.6 |
| HomePtCap | HMPT | 1.29 | -5.1 |
| HudsonPacProp | HPP | 9.65 | -3.6 |
| HumacyteWt | HUMAW | 0.70 | -5.3 |
| Hut8Mining | HUT | 1.03 | -4.5 |
| HyreCar | HYRE | 0.55 | -0.9 |
| IMAC | BACK | 0.27 | -1.8 |
| IM Cannabis | IMCC | 1.70 | -1.6 |
| InvoBioScience | INVO | 0.33 | -11.7 |
| iBio | IBIO | 0.67 | -57.9 |
| Immunic | IMUX | 1.13 | -6.5 |
| Incannex | IXHL | 2.98 | -8.6 |
| InfinityPharm | INFI | 0.44 | -3.6 |
| InMedPharm | INM | 2.31 | -4.1 |
| InnovativeEyeWt | LUCYW | 0.14 | -40.0 |
| InnSuitesHosp | IHT | 1.51 | 7.8 |
| Inpixon | INPX | 1.95 | -8.8 |
| InspiraTech | IINN | 1.06 | -4.3 |
| Inspirato | ISPO | 1.68 | -5.6 |
| Inuvo | INUV | 0.27 | -2.1 |
| InVivoTherap | NVIV | 1.70 | -4.2 |
| IrisEnergy | IREN | 1.37 | -6.6 |
| IronNet | IRNT | 0.31 | -9.6 |
| IsoPlexis | ISO | 1.10 | -5.2 |
| iSpecimen | ISPC | 1.42 | -3.1 |
| iSun | ISUN | 1.58 | 0.6 |
| JaguarHealth | JAGX | 0.10 | -2.0 |
| JasperTherap | JSPR | 0.56 | -3.5 |
| JianzhiEduc | JZ | 1.06 | ... |
| JobyAviation | JOBY | 3.48 | -4.4 |
| KKR RealEstFin | KREF | 15.38 | -1.3 |
| KKRRealEstFinPfdA | KREFpA | 16.73 | 0.6 |
| KL Acqn | KLAQU | 9.25 | ... |
| KwesstMicroSys | KWE | 2.63 | -36.0 |
| KenonHoldings | KEN | 33.53 | -2.1 |
| Kforce | KFRC | 53.42 | -2.7 |
| KilroyRealty | KRC | 38.02 | -2.6 |
| Knightscope | KSCP | 2.00 | -1.9 |
| KronosBio | KRON | 1.61 | 4.2 |
| LavaMedtechWt | LVACW | 0.00 | -40.9 |
| LM Funding | LMFA | 0.58 | -3.6 |
| LakeShoreBancorp | LSBK | 12.50 | -0.8 |
| LaredoPetrol | LPI | 52.14 | -5.0 |
| LarkspurHlthA | LSPR | 9.79 | -1.5 |
| Latch | LTCH | 0.75 | -11.6 |
| LeapTherap | LPTX | 0.45 | -5.7 |
| Leslie's | LESL | 12.30 | -3.5 |
| LiliumWt | LILMW | 0.13 | -7.5 |
| Lilium | LILM | 1.26 | -10.6 |
| LionsGate B | LGF.B | 5.53 | -14.2 |
| LionsGate A | LGF.A | 5.90 | -15.1 |
| LocalBountiWt | LOCL.WS | 0.12 | -33.3 |
| LogicMark | LGMK | 0.60 | -9.5 |
| Lovesac | LOVE | 17.60 | -21.3 |
| Lucid | LCID | 8.29 | -0.5 |
| LuciraHealth | LHDX | 0.29 | -6.4 |
| Lulu'sFashion | LVLU | 3.12 | -2.5 |
| Lumentum | LITE | 51.68 | -1.9 |
| LumosPharma | LUMO | 4.35 | -7.7 |
| Lyft | LYFT | 10.09 | -0.9 |
| LyraTherap | LYRA | 3.19 | -3.3 |
| MindTech | MIND | 0.37 | ... |
| MVB Financial | MVBF | 23.02 | -1.0 |
| MagicEmpire | MEGL | 1.79 | -1.1 |
| MarinusPharma | MRNS | 3.95 | -3.8 |
| Maris-TechWt | MTEKW | 0.04 | ... |
| MarkforgedWt | MKFG.WS | 0.13 | -3.8 |
| Markforged | MKFG | 1.00 | -1.0 |
| Materialise | MTLS | 8.91 | 0.9 |
| Matson | MATX | 60.17 | -1.7 |
| MedAvail | MDVL | 0.38 | -0.2 |
| MobileGlbEsports | MGAM | 0.68 | -5.3 |
| Mobilicom | MOB | 1.26 | -5.1 |
| MolecularTemp | MTEM | 0.44 | -7.8 |
| MoneyLion | ML | 0.58 | -4.9 |
| MotorcarParts | MPAA | 10.66 | -4.2 |
| MotusGI | MOTS | 1.17 | -1.7 |
| MullenAuto | MULN | 0.18 | 1.2 |
| MustangBio | MBIO | 0.38 | -3.3 |
| MyMD Pharm | MYMD | 1.44 | -16.5 |
| Myomo | MYO | 0.46 | -0.1 |
| NRG Energy | NRG | 32.95 | -4.4 |
| NanoDimension | NNDM | 2.11 | -0.9 |
| NaturalGrocers | NGVC | 9.56 | -0.7 |
| NaviosMaritime | NM | 1.61 | -4.7 |
| Netcapital | NCPL | 1.15 | 1.7 |
| NewYorkCityReit | NYC | 1.85 | -1.0 |
| NexPointPfdA | NREFpA | 18.51 | -2.2 |
| Nextdoor | KIND | 1.95 | -2.5 |
| NextPlayTech | NXTP | 0.13 | -7.8 |
| NightHawkBio | NHWK | 1.01 | -8.9 |
| 9F | JFU | 0.18 | -3.4 |
| 908Devices | MASS | 8.26 | -4.2 |
| NovaVisionWt | NOVVW | 0.00 | 46.2 |
| NovaBayPharm | NBY | 1.70 | -3.9 |
| NovoIntSci | NVOS | 0.21 | -7.7 |
| NuvveHolding | NVVE | 0.51 | -2.6 |
| OPKO Health | OPK | 1.32 | -1.4 |
| Oatly | OTLY | 1.39 | -5.4 |
| OceanPal | OP | 0.20 | ... |
| Ocugen | OCGN | 1.32 | -1.4 |
| OkyoPharma | OKYO | 1.80 | -5.0 |
| OncologyInst | TOI | 1.18 | -3.2 |
| Oncorus | ONCR | 0.35 | -13.0 |
| OncoSecMed | ONCS | 2.28 | -7.8 |
| 180LifeSci | ATNF | 0.29 | -15.4 |
| 180LifeSciWt | ATNFW | 0.02 | -30.7 |
| OntrakPfd | OTRKP | 0.56 | -9.5 |
| OpendoorTech | OPEN | 1.26 | -8.5 |
| Owlet | OWLT | 0.70 | -10.9 |
| PagayaTech | PGY | 0.72 | -13.5 |
| PagayaTechWt | PGYWW | 0.09 | -32.0 |
| PagSeguroDig | PAGS | 8.56 | -3.3 |
| PainReform | PRFX | 0.34 | 6.6 |
| PalatinTech | PTN | 3.29 | -0.3 |
| ParamountGroup | PGRE | 5.48 | 3.2 |
| PartyCity | PRTY | 0.58 | -3.6 |
| PassageBio | PASG | 1.04 | -3.6 |
| PA Reit | PEI | 2.30 | -3.8 |
| PetrosPharm | PTPI | 2.90 | -8.8 |
| PhioPharm | PHIO | 0.38 | -3.8 |
| Phunware | PHUN | 0.95 | -4.2 |
| PiedmontOfficeA | PDM | 8.86 | -0.6 |
| Playtika | PLTK | 8.28 | 0.1 |
| PLxPharma | PLXP | 0.27 | ... |
| Popular | BPOP | 65.01 | -1.5 |
| PowerREIT | PW | 4.05 | -8.2 |
| PowerREIT PfdA | PWpA | 16.82 | -3.0 |
| PowerbridgeTech | PBTS | 0.10 | -12.0 |
| PrimaveraCap | PV.U | 9.77 | -0.4 |
| PropSolnsII Wt | PSAGW | 0.00 | -89.1 |
| ProSomnus | OSA | 4.87 | -21.7 |
| ProtagenicTherap | PTIX | 0.36 | -17.3 |
| PubMatic | PUBM | 13.52 | -6.5 |
| PurpleBiotech | PPBT | 1.78 | -4.8 |
| QualTekSvcs | QTEK | 0.53 | -27.3 |
| Quantum-SiWt | QSIAW | 0.31 | 15.3 |
| Quotient | QTNT | 0.58 | -12.5 |
| RENN Fund | RCG | 1.99 | -1.0 |
| Rallybio | RLYB | 4.59 | -1.9 |
| Reading A | RDI | 2.98 | -0.3 |
| RedHillBio | RDHL | 0.22 | -5.0 |
| RekorSystems | REKR | 0.77 | -0.7 |
| RelianceGlobalWt | RELIW | 0.08 | 24.7 |
| RelmadaTherap | RLMD | 4.09 | -1.0 |
| Remark | MARK | 0.20 | -3.4 |
| ReneoPharm | RPHM | 1.88 | -5.4 |
| RiceBranTech | RIBT | 1.05 | -1.8 |
| RiminiStreet | RMNI | 3.96 | -1.7 |
| RocketInternetWt | RKTA.WS | 0.02 | 4.1 |
| Root | ROOT | 5.67 | -10.2 |
| RubiconTech | RBCN | 1.74 | 13.6 |
| RubiusTherap | RUBY | 0.16 | -7.9 |
| SLGreenRealty | SLG | 34.21 | -2.6 |
| SQZ Biotech | SQZ | 1.23 | -5.4 |
| SVB Fin | SIVB | 198.10 | 4.0 |
| SalariusPharm | SLRX | 1.58 | -2.8 |
| SalemMedia | SALM | 1.22 | -0.8 |
| Salesforce | CRM | 130.02 | -2.1 |
| SallyBeauty | SBH | 11.01 | -0.7 |
| SarcosTech&Robotic | STRC | 0.92 | -6.0 |
| Sema4 | SMFR | 0.28 | -5.1 |
| Semantix | STIX | 0.73 | -0.3 |
| SeniorConnectI | SNRHU | 9.69 | -2.3 |
| SeniorConnectI A | SNRH | 9.49 | -3.6 |
| SenstarTech | SNT | 1.30 | -1.5 |
| SentinelOne | S | 12.80 | -0.9 |
| 7AcqnWt | SVNAW | 0.05 | -16.7 |
| SharpLink | SBET | 0.39 | -6.5 |
| ShiftTech | SFT | 0.23 | -5.2 |
| SifyTech | SIFY | 1.33 | 1.5 |
| SigilonTherap | SGTX | 0.36 | -1.4 |
| SignatureBank | SBNY | 113.45 | -1.6 |
| SilvergateCapital | SI | 21.55 | -4.4 |
| Smith&Wesson | SWBI | 9.48 | -19.6 |
| SocialLvgl Wt | SLAC.WS | 0.08 | -8.9 |
| SoFiTech | SOFI | 4.24 | -0.5 |
| SolidPowerWt | SLDPW | 0.38 | -7.1 |
| SolidPower | SLDP | 2.61 | -3.9 |
| SomaLogic | SLGC | 2.58 | -0.4 |
| SorrentoTherap | SRNE | 1.06 | -4.0 |
| Sphere3D | ANY | 0.26 | -5.6 |
| SpringBig | SBIG | 0.67 | -8.7 |
| Sprinklr | CXM | 7.25 | 0.1 |
| StarryGroup | STRY | 0.10 | -22.1 |
| SteakholderFds | STKH | 1.28 | -28.0 |
| Stran | STRN | 1.19 | -1.6 |
| StranWt | STRNW | 0.12 | -12.2 |
| Stratasys | SSYS | 12.45 | -1.3 |
| StrongholdDig | SDIG | 0.50 | 0.7 |
| SurfaceOncol | SURF | 0.84 | -5.1 |
| Surrozen | SRZN | 0.47 | -2.0 |
| Synchronoss | SNCR | 0.75 | -4.6 |
| SyrosPharm | SYRS | 3.35 | 1.5 |
| T2Biosystems | TTOO | 1.43 | -3.3 |
| TattooedChef | TTCF | 1.26 | -3.0 |
| TempoAutomation | TMPO | 2.63 | -13.2 |
| TextainerPfdA | TGHpA | 21.61 | -0.6 |
| The9 | NCTY | 0.65 | -4.6 |
| Theratechnologies | THTX | 0.95 | -10.6 |
| TimberPharm | TMBR | 1.24 | -0.2 |
| TonixPharm | TNXP | 0.36 | -5.1 |
| Trevena | TRVN | 2.26 | -12.4 |
| TrinityCapital | TRIN | 10.23 | -1.3 |
| TritiumDCFC | DCFC | 1.08 | -9.8 |
| TritiumDCFC Wt | DCFCW | 0.28 | -6.7 |
| TroikaMedia | TRKA | 0.11 | -10.7 |
| TRxADEHEALTH | MEDS | 0.41 | -3.7 |
| TuanChe | TC | 0.82 | -9.4 |
| TuSimple | TSP | 1.65 | -6.6 |
| USCellularNts2069 | UZD | 17.44 | -0.3 |
| USCellularNts2070 | UZF | 15.59 | -0.2 |
| USCellular5.5%SrNt | UZE | 15.62 | 0.7 |
| US Energy | USEG | 2.40 | ... |
| Uniti | UNIT | 5.98 | -13.8 |
| UpHealth | UPH | 0.23 | 0.8 |
| UplandSoftware | UPLD | 6.30 | 5.7 |
| Upwork | UPWK | 10.69 | -0.9 |
| VBI Vaccines | VBIV | 0.45 | 9.6 |
| VyneTherap | VYNE | 0.19 | -4.5 |
| Vacasa | VCSA | 1.25 | -3.1 |
| Vaxart | VXRT | 1.05 | 0.9 |
| VenatorMaterials | VNTR | 0.47 | 2.0 |
| VerbTechWt | VERBW | 0.02 | -3.8 |
| VersusSystems | VS | 0.72 | -47.0 |
| VersusSystemsWt | VSSYW | 0.01 | -58.3 |
| ViaRenewables | VIA | 5.25 | -5.4 |
| ViantTech | DSP | 3.33 | -2.6 |
| VicariousSurgical | RBOT | 2.60 | -0.4 |
| VincoVentures | BBIG | 0.51 | -10.4 |
| ViraxBiolabs | VRAX | 1.17 | -4.6 |
| ViriosTherap | VIRI | 0.25 | -8.6 |
| VislinkTech | VISL | 0.34 | -1.4 |
| ViveveMedical | VIVE | 0.38 | 0.7 |
| VivosTherap | VVOS | 0.37 | -6.2 |
| Vodafone | VOD | 10.66 | -1.7 |
| Volta | VLTA | 0.42 | -10.4 |
| VoltaWt | VLTA.WS | 0.11 | -3.2 |
| VyantBio | VYNT | 1.00 | -21.1 |
| Waitr | ASAP | 0.52 | -21.1 |
| Wallbox | WBX | 4.39 | -10.6 |
| WearableDevices | WLDS | 0.58 | -6.5 |
| Wejo | WEJO | 0.72 | -3.5 |
| WerewolfTherap | HOWL | 1.39 | -6.1 |
| WheelsUpWt | UP.WS | 0.07 | -35.5 |
| WideOpenWest | WOW | 9.54 | 1.5 |
| WolverineWwide | WWW | 10.04 | -1.5 |
| WorkhorseGroup | WKHS | 1.89 | -8.6 |
| XosWt | XOSWW | 0.05 | -0.2 |
| Yellow | YELL | 2.76 | -1.1 |
| ZimIntShipping | ZIM | 17.66 | -7.9 |
| ZionsBancorp | ZION | 45.97 | -0.2 |
| Zscaler | ZS | 111.48 | -1.5 |
| Zuora | ZUO | 5.70 | -20.1 |

## Exchange-Traded Portfolios | WSJ.com/ETFresearch

Largest 100 exchange-traded funds, latest session

**Wednesday, December 7, 2022**

| ETF | Symbol | Closing Price | Chg (%) | YTD (%) |
|---|---|---|---|---|
| CnsmrDiscSelSector | XLY | 138.70 | **–0.60** | –32.2 |
| CnsStapleSelSector | XLP | 76.07 | **0.42** | –1.3 |
| DimenUSCoreEq2 | DFAC | 24.88 | **–0.32** | –14.1 |
| EnSelSectorSPDR | XLE | 85.12 | **–0.23** | 53.4 |
| FinSelSectorSPDR | XLF | 34.59 | **–0.40** | –11.4 |
| HealthCareSelSect | XLV | 138.52 | **0.82** | –1.7 |
| IndSelSectorSPDR | XLI | 99.30 | **–0.13** | –6.2 |
| InvscQQQI | QQQ | 280.53 | **–0.41** | –29.5 |
| InvscS&P500EW | RSP | 144.22 | **–0.17** | –11.4 |
| iShCoreDivGrowth | DGRO | 50.77 | **...** | –8.7 |
| iShCoreMSCIEAFE | IEFA | 62.45 | **–0.02** | –16.3 |
| iShCoreMSCIEM | IEMG | 47.77 | **–0.52** | –20.2 |
| iShCoreMSCITotInt | IXUS | 58.81 | **–0.12** | –17.1 |
| iShCoreS&P500 | IVV | 394.85 | **–0.19** | –17.2 |
| iShCoreS&P MC | IJH | 247.30 | **–0.15** | –12.6 |
| iShCoreS&P SC | IJR | 97.92 | **–0.42** | –14.5 |
| iShCoreS&PTotUS | ITOT | 87.14 | **–0.18** | –18.5 |
| iShCoreTotalUSDBd | IUSB | 46.08 | **0.85** | –12.9 |
| iShCoreUSAggBd | AGG | 99.68 | **0.89** | –12.6 |
| iShSelectDividend | DVY | 121.99 | **–0.08** | –0.5 |
| iShESGAwareUSA | ESGU | 87.25 | **–0.11** | –19.1 |
| iShEdgeMSCIMinUSA | USMV | 73.92 | **0.11** | –8.6 |
| iShEdgeMSCIUSAQual | QUAL | 117.09 | **–0.13** | –19.6 |
| iShGoldTr | IAU | 33.91 | **0.86** | –2.6 |
| iShiBoxx$HYCpBd | HYG | 74.98 | **0.55** | –13.8 |
| iShiBoxx$InvGrCpBd | LQD | 110.03 | **1.11** | –17.0 |
| iShJPMUSDEmgBd | EMB | 86.86 | **1.45** | –20.4 |
| iShMBSETF | MBB | 95.05 | **1.05** | –11.5 |
| iShMSCIACWI | ACWI | 87.09 | **–0.18** | –17.7 |
| iShMSCI EAFE | EFA | 66.53 | **...** | –15.4 |
| iSh MSCI EM | EEM | 38.81 | **–0.59** | –20.6 |
| iShMSCIEAFEValue | EFV | 46.11 | **–0.04** | –8.5 |
| iShNatlMuniBd | MUB | 106.72 | **0.44** | –8.2 |
| iSh1-5YIGCorpBd | IGSB | 50.12 | **0.38** | –7.0 |
| iShPfd&Incm | PFF | 31.72 | **0.19** | –19.6 |
| iShRussell1000Gwth | IWF | 223.16 | **–0.38** | –27.0 |
| iShRussell1000Val | IWD | 153.88 | **–0.05** | –8.4 |
| iShRussell2000 | IWM | 179.54 | **–0.29** | –19.3 |
| iShRussellMid-Cap | IWR | 69.12 | **–0.16** | –16.7 |
| iShRussellMCValue | IWS | 107.68 | **–0.29** | –12.0 |
| iShRussell1000 | IWB | 216.12 | **–0.22** | –18.3 |
| iShS&P500Growth | IVW | 60.69 | **–0.38** | –27.5 |
| iShS&P500Value | IVE | 147.55 | **–0.01** | –5.8 |
| iShShortTreaBd | SHV | 109.93 | **0.04** | –0.4 |
| iShTIPSBondETF | TIP | 109.50 | **0.43** | –15.2 |
| iSh1-3YTreasuryBd | SHY | 81.44 | **0.21** | –4.8 |
| iSh7-10YTreaBd | IEF | 99.14 | **0.88** | –13.8 |
| iSh20+YTreaBd | TLT | 109.47 | **2.36** | –26.1 |
| iShUSTreasuryBd | GOVT | 23.30 | **0.73** | –12.7 |
| JPMEquityPrem | JEPI | 55.60 | **0.05** | –12.0 |
| JPM UltShIncm | JPST | 50.17 | **0.02** | –0.6 |
| SPDRBlm1-3MTB | BIL | 91.48 | **...** | 0.1 |
| SPDR Gold | GLD | 166.33 | **0.90** | –2.7 |
| SPDRS&P500Value | SPYV | 39.56 | **–0.10** | –5.8 |
| SPDRPtfS&P500 | SPLG | 46.24 | **–0.13** | –17.2 |
| SPDRS&P500Growth | SPYG | 52.59 | **–0.42** | –27.4 |
| SchwabIntEquity | SCHF | 32.54 | **0.05** | –16.3 |
| SchwabUS BrdMkt | SCHB | 45.82 | **–0.26** | –18.9 |
| SchwabUS Div | SCHD | 76.03 | **0.02** | –5.9 |
| SchwabUS LC | SCHX | 46.20 | **–0.15** | –18.8 |
| SchwabUS LC Grw | SCHG | 57.89 | **–0.44** | –29.3 |
| SchwabUS SC | SCHA | 41.40 | **–0.29** | –19.1 |
| Schwab US TIPs | SCHP | 53.47 | **0.41** | –15.0 |
| SPDR DJIA Tr | DIA | 336.44 | **–0.01** | –7.4 |
| SPDR S&PMdCpTr | MDY | 452.53 | **–0.12** | –12.6 |
| SPDR S&P 500 | SPY | 393.16 | **–0.17** | –17.2 |
| SPDR S&P Div | SDY | 128.31 | **–0.03** | –0.6 |
| TechSelectSector | XLK | 129.60 | **–0.51** | –25.5 |
| UtilitiesSelSector | XLU | 70.74 | **–0.46** | –1.2 |
| VangdInfoTech | VGT | 331.68 | **–0.46** | –27.6 |
| VangdSC Val | VBR | 162.81 | **–0.40** | –9.0 |
| VangdExtMkt | VXF | 136.47 | **–0.28** | –25.4 |
| VangdDivApp | VIG | 154.71 | **0.03** | –9.9 |
| VangdFTSEDevMk | VEA | 42.79 | **...** | –16.2 |
| VangdFTSE EM | VWO | 40.05 | **–0.60** | –19.0 |
| VangdFTSE Europe | VGK | 56.47 | **–0.09** | –17.2 |
| VangdFTSEAWxUS | VEU | 51.19 | **–0.14** | –16.5 |
| VangdGrowth | VUG | 222.75 | **–0.41** | –30.6 |
| VangdHlthCr | VHT | 252.40 | **0.74** | –5.3 |
| VangdHiDiv | VYM | 109.88 | **–0.02** | –2.0 |
| VangdIntrCorpBd | VCIT | 79.53 | **0.76** | –14.3 |
| VangdIntermTrea | VGIT | 59.66 | **0.67** | –10.2 |
| VangdLC | VV | 179.19 | **–0.18** | –18.9 |
| VangdMC | VO | 209.11 | **–0.08** | –17.9 |
| VangdMC Val | VOE | 138.74 | **–0.11** | –7.7 |
| VangdMBS | VMBS | 46.65 | **1.11** | –11.7 |
| VangdRealEst | VNQ | 85.39 | **0.20** | –26.4 |
| VangdS&P500ETF | VOO | 361.33 | **–0.19** | –17.2 |
| VangdST Bond | BSV | 75.72 | **0.34** | –6.3 |
| VangdSTCpBd | VCSH | 75.66 | **0.36** | –6.9 |
| VangdShtTmInfltn | VTIP | 48.00 | **0.17** | –6.6 |
| VangdShortTrea | VGSH | 58.00 | **0.21** | –4.7 |
| VangdSC | VB | 188.12 | **–0.27** | –16.8 |
| VangdTaxExemptBd | VTEB | 50.06 | **0.38** | –8.8 |
| VangdTotalBd | BND | 73.80 | **0.87** | –12.9 |
| VangdTotlntlBd | BNDX | 49.45 | **0.28** | –10.4 |
| VangdTotIntlStk | VXUS | 52.73 | **–0.23** | –17.1 |
| VangdTotalStk | VTI | 196.66 | **–0.16** | –18.5 |
| VangdTotWrldStk | VT | 88.35 | **–0.17** | –17.8 |
| VangdValue | VTV | 142.31 | **0.01** | –3.3 |

# MARKETS DIGEST

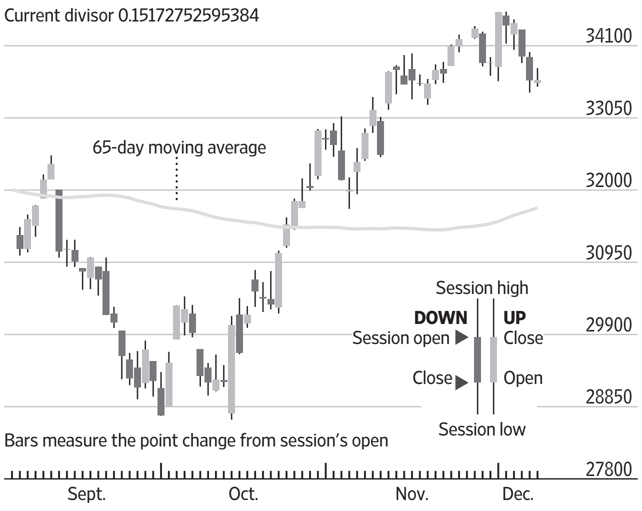
## EQUITIES

### Dow Jones Industrial Average

**33597.92** ▲1.58, or 0.005%

High, low, open and close for each trading day of the past three months.

| | Last | Year ago |
|---|---|---|
| Trailing P/E ratio | 20.91 | 22.25 |
| P/E estimate * | 18.83 | 17.74 |
| Dividend yield | 2.04 | 1.93 |
| All-time high | 36799.65, 01/04/22 | |

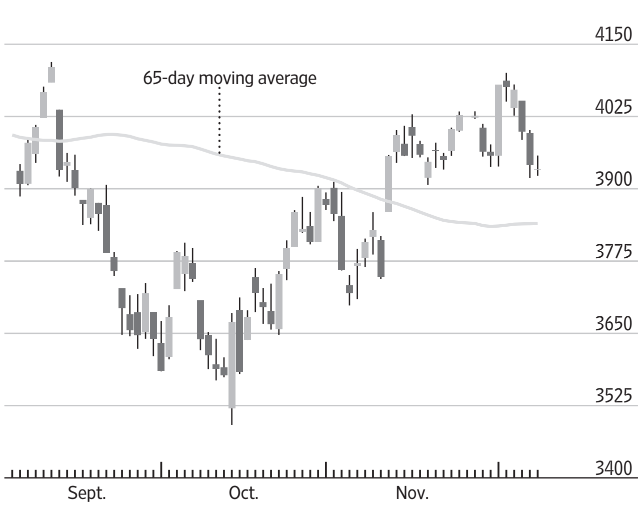



### S&P 500 Index

**3933.92** ▼7.34, or 0.19%

High, low, open and close for each trading day of the past three months.

| | Last | Year ago |
|---|---|---|
| Trailing P/E ratio * | 19.65 | 28.06 |
| P/E estimate * | 18.36 | 21.42 |
| Dividend yield * | 1.66 | 1.31 |
| All-time high | 4796.56, 01/03/22 | |

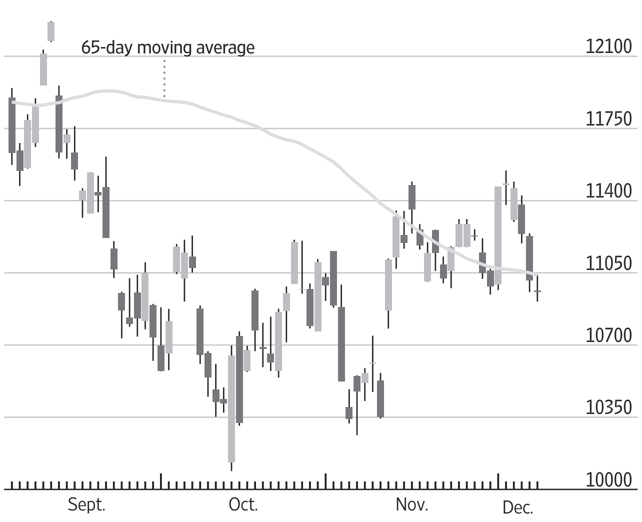



### Nasdaq Composite Index

**10958.55** ▼ 56.34, or 0.51%

High, low, open and close for each trading day of the past three months.

| | Last | Year ago |
|---|---|---|
| Trailing P/E ratio *† | 24.98 | 34.63 |
| P/E estimate *† | 23.15 | 29.75 |
| Dividend yield *† | 0.93 | 0.66 |
| All-time high: | 16057.44, 11/19/21 | |




*Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.; †Based on Nasdaq-100 Index

### Major U.S. Stock-Market Indexes

| | Latest High | Low | Close | Net chg | % chg | 52-Week High | Low | % chg | % chg YTD | 3-yr. ann. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Dow Jones** | | | | | | | | | | |
| Industrial Average | 33774.27 | 33503.67 | **33597.92** | 1.58 | **0.00** | 36799.65 | 28725.51 | **-6.0** | -7.5 | **6.2** |
| Transportation Avg | 13941.15 | 13747.12 | **13767.89** | -130.21 | **-0.94** | 16718.54 | 11999.40 | **-15.6** | -16.4 | **8.7** |
| Utility Average | 985.36 | 969.43 | **972.78** | -6.18 | **-0.63** | 1071.75 | 838.99 | **4.3** | -0.8 | **4.4** |
| Total Stock Market | 39713.09 | 39349.61 | **39461.31** | -78.82 | **-0.20** | 48929.18 | 36056.21 | **-18.2** | -18.9 | **7.0** |
| Barron's 400 | 949.65 | 940.57 | **942.48** | -1.55 | **-0.16** | 1111.54 | 825.73 | **-13.7** | -14.8 | **9.6** |
| **Nasdaq Stock Market** | | | | | | | | | | |
| Nasdaq Composite | 11039.81 | 10910.62 | **10958.55** | -56.34 | **-0.51** | 15871.26 | 10321.39 | **-30.6** | -30.0 | **8.2** |
| Nasdaq-100 | 11577.69 | 11431.96 | **11497.39** | -52.30 | **-0.45** | 16567.50 | 10690.60 | **-29.9** | -29.6 | **11.0** |
| **S&P** | | | | | | | | | | |
| 500 Index | 3957.57 | 3922.68 | **3933.92** | -7.34 | **-0.19** | 4796.56 | 3577.03 | **-16.3** | -17.5 | **7.7** |
| MidCap 400 | 2498.18 | 2471.11 | **2477.30** | -4.23 | **-0.17** | 2865.54 | 2200.75 | **-12.1** | -12.8 | **7.0** |
| SmallCap 600 | 1206.75 | 1193.19 | **1193.87** | -5.67 | **-0.47** | 1426.13 | 1064.45 | **-14.8** | -14.8 | **6.0** |
| **Other Indexes** | | | | | | | | | | |
| Russell 2000 | 1822.70 | 1805.66 | **1806.90** | -5.67 | **-0.31** | 2272.56 | 1649.84 | **-20.5** | -19.5 | **3.4** |
| NYSE Composite | 15401.62 | 15285.06 | **15311.79** | -16.65 | **-0.11** | 17353.76 | 13472.18 | **-9.4** | -10.8 | **4.1** |
| Value Line | 552.95 | 548.03 | **548.43** | -2.44 | **-0.44** | 680.36 | 491.56 | **-17.9** | -18.4 | **0.6** |
| NYSE Arca Biotech | 5269.19 | 5217.78 | **5259.66** | 26.42 | **0.50** | 5649.54 | 4208.43 | **-3.3** | -4.7 | **1.2** |
| NYSE Arca Pharma | 872.06 | 863.82 | **867.77** | 3.94 | **0.46** | 887.27 | 737.84 | **12.1** | 4.9 | **11.3** |
| KBW Bank | 101.16 | 98.78 | **100.29** | 0.22 | **0.22** | 147.56 | 94.66 | **-25.0** | -24.2 | **-3.3** |
| PHLX§ Gold/Silver | 122.70 | 120.56 | **121.56** | 2.15 | 1.80 | 167.76 | 91.40 | **-5.7** | -8.2 | **8.2** |
| PHLX§ Oil Service | 80.55 | 77.76 | **77.99** | -1.82 | -2.28 | 88.37 | 50.23 | **42.4** | 47.9 | **3.0** |
| PHLX§ Semiconductor | 2689.00 | 2645.47 | **2673.25** | -0.28 | **-0.01** | 4039.51 | 2162.32 | **-32.6** | -32.3 | **15.7** |
| Cboe Volatility | 23.01 | 22.18 | **22.68** | 0.51 | 2.30 | 36.45 | 16.60 | **14.0** | 31.7 | **18.5** |

§Nasdaq PHLX

Sources: FactSet; Dow Jones Market Data

### Late Trading

Most-active and biggest movers among NYSE, NYSE Arca, NYSE Amer. and Nasdaq issues from 4 p.m. to 6 p.m. ET as reported by electronic trading services, securities dealers and regional exchanges. Minimum share price of $2 and minimum after-hours volume of 50,000 shares.

#### Most-active issues in late trading

| Company | Symbol | Volume (000) | After Hours Last | Net chg | % chg | High | Low |
|---|---|---|---|---|---|---|---|
| SPDR S&P 500 | SPY | 7,638.7 | 393.10 | -0.06 | **-0.02** | 407.24 | 392.92 |
| Itau Unibanco ADR | ITUB | 5,756.2 | 5.05 | 0.11 | **2.23** | 5.05 | 4.82 |
| Bank of America | BAC | 5,181.9 | 32.77 | 0.03 | **0.09** | 32.82 | 32.71 |
| Invesco QQQ Trust I | QQQ | 4,854.1 | 280.41 | -0.12 | **-0.04** | 296.95 | 279.37 |
| Taiwan Semiconductor ADR | TSM | 4,692.4 | 79.23 | -0.01 | **-0.013** | 79.44 | 79.13 |
| Halliburton | HAL | 3,845.8 | 35.05 | ... | **unch.** | 35.23 | 34.70 |
| Comcast Cl A | CMCSA | 3,719.6 | 34.70 | 0.08 | **0.23** | 34.76 | 34.59 |
| Snap | SNAP | 3,673.3 | 9.40 | 0.10 | **1.08** | 9.44 | 9.30 |

#### Percentage gainers...

| Company | Symbol | Volume (000) | Last | Net chg | % chg | High | Low |
|---|---|---|---|---|---|---|---|
| HashiCorp Cl A | HCP | 218.2 | 28.63 | 1.91 | **7.15** | 31.48 | 26.72 |
| Accolade | ACCD | 81.4 | 8.68 | 0.56 | **6.90** | 8.95 | 7.33 |
| Avalonbay Communities | AVB | 52.4 | 176.36 | 8.39 | **4.99** | 176.36 | 166.88 |
| Natera | NTRA | 199.8 | 40.38 | 1.92 | **4.99** | 40.38 | 37.96 |
| Sunstone Hotel Investors | SHO | 50.6 | 10.74 | 0.51 | **4.99** | 10.74 | 10.23 |

#### ...And losers

| Company | Symbol | Volume (000) | Last | Net chg | % chg | High | Low |
|---|---|---|---|---|---|---|---|
| Relmada Therapeutics | RLMD | 142.7 | 2.68 | -1.48 | **-35.58** | 4.20 | 2.01 |
| Cutera | CUTR | 127.4 | 43.29 | -6.37 | **-12.83** | 49.66 | 41.55 |
| Safehold | SAFE | 56.3 | 27.51 | -1.44 | **-4.97** | 28.95 | 27.51 |
| Couchbase | BASE | 51.9 | 12.42 | -0.55 | **-4.24** | 12.99 | 10.64 |
| ACCO Brands | ACCO | 67.2 | 5.58 | -0.23 | **-3.96** | 5.81 | 5.58 |

### Trading Diary

#### Volume, Advancers, Decliners

| | NYSE | NYSE Amer. |
|---|---|---|
| **Total volume*** | 885,453,002 | 9,761,817 |
| **Adv. volume*** | 332,827,500 | 3,493,472 |
| **Decl. volume*** | 533,382,964 | 6,237,527 |
| **Issues traded** | 3,264 | 301 |
| **Advances** | 1,512 | 131 |
| **Declines** | 1,616 | 157 |
| **Unchanged** | 136 | 13 |
| **New highs** | 38 | 4 |
| **New lows** | 102 | 23 |
| **Closing Arms†** | 1.71 | 1.46 |
| **Block trades*** | 4,424 | 142 |

| | Nasdaq | NYSE Arca |
|---|---|---|
| **Total volume*** | 4,343,866,676 | 279,061,446 |
| **Adv. volume*** | 1,648,690,343 | 113,692,513 |
| **Decl. volume*** | 2,633,943,698 | 153,026,342 |
| **Issues traded** | 4,820 | 1,754 |
| **Advances** | 1,966 | 810 |
| **Declines** | 2,584 | 911 |
| **Unchanged** | 270 | 33 |
| **New highs** | 70 | 7 |
| **New lows** | 326 | 19 |
| **Closing Arms†** | 1.22 | 1.01 |
| **Block trades*** | 27,746 | 1,309 |

* Primary market NYSE, NYSE American NYSE Arca only.
†(TRIN) A comparison of the number of advancing and declining issues with the volume of shares rising and falling. An Arms of less than 1 indicates buying demand; above 1 indicates selling pressure.

### International Stock Indexes

| Region/Country | Index | Close | Latest Net chg | % chg | YTD % chg |
|---|---|---|---|---|---|
| **World** | **MSCI ACWI** | **616.22** | –2.60 | **–0.42** | –18.4 |
| | **MSCI ACWI ex-USA** | **283.34** | –2.28 | **–0.80** | –17.7 |
| | **MSCI World** | **2654.34** | –7.73 | **–0.29** | –17.9 |
| | **MSCI Emerging Markets** | **958.77** | –14.16 | **–1.45** | –22.2 |
| **Americas** | **MSCI AC Americas** | **1493.48** | –2.49 | **–0.17** | –18.3 |
| Canada | **S&P/TSX Comp** | **19973.22** | –16.95 | **–0.08** | –5.9 |
| Latin Amer. | **MSCI EM Latin America** | **2171.82** | –13.53 | **–0.62** | 2.0 |
| Brazil | **BOVESPA** | **109068.55** | –1120.02 | **–1.02** | 4.1 |
| Chile | **S&P IPSA** | **3167.75** | –22.10 | **–0.69** | 12.9 |
| Mexico | **S&P/BMV IPC** | **50725.96** | –294.69 | **–0.58** | –4.8 |
| **EMEA** | **STOXX Europe 600** | **436.20** | –2.72 | **–0.62** | –10.6 |
| Eurozone | **Euro STOXX** | **421.09** | –2.23 | **–0.53** | –12.1 |
| Belgium | **Bel-20** | **3706.62** | –24.58 | **–0.66** | –14.0 |
| Denmark | **OMX Copenhagen 20** | **1796.63** | –8.46 | **–0.47** | –3.6 |
| France | **CAC 40** | **6660.59** | –27.20 | **–0.41** | –6.9 |
| Germany | **DAX** | **14261.19** | –82.00 | **–0.57** | –10.2 |
| Israel | **Tel Aviv** | **1826.93** | –24.48 | **–1.32** | –7.6 |
| Italy | **FTSE MIB** | **24241.35** | –24.10 | **–0.10** | –11.4 |
| Netherlands | **AEX** | **718.34** | –5.34 | **–0.74** | –10.0 |
| Norway | **Oslo Bors All-Share** | **1355.24** | –21.52 | **–1.56** | 3.6 |
| South Africa | **FTSE/JSE All-Share** | **74011.12** | –546.19 | **–0.73** | 0.4 |
| Spain | **IBEX 35** | **8290.50** | –41.40 | **–0.50** | –4.9 |
| Sweden | **OMX Stockholm** | **799.43** | –7.85 | **–0.97** | –22.9 |
| Switzerland | **Swiss Market** | **11009.95** | –99.38 | **–0.89** | –14.5 |
| Turkey | **BIST 100** | **4827.04** | –173.10 | **–3.46** | 159.8 |
| U.K. | **FTSE 100** | **7489.19** | –32.20 | **–0.43** | 1.4 |
| U.K. | **FTSE 250** | **18930.57** | –169.51 | **–0.89** | –19.4 |
| **Asia-Pacific** | **MSCI AC Asia Pacific** | **155.93** | –1.73 | **–1.10** | –19.3 |
| Australia | **S&P/ASX 200** | **7229.40** | –61.87 | **–0.85** | –2.9 |
| China | **Shanghai Composite** | **3199.62** | –12.91 | **–0.40** | –12.1 |
| Hong Kong | **Hang Seng** | **18814.82** | –626.36 | **–3.22** | –19.6 |
| India | **S&P BSE Sensex** | **62410.68** | –215.69 | **–0.34** | 7.1 |
| Japan | **NIKKEI 225** | **27686.40** | –199.47 | **–0.72** | –3.8 |
| Singapore | **Straits Times** | **3225.45** | –26.93 | **–0.83** | 3.3 |
| South Korea | **KOSPI** | **2382.81** | –10.35 | **–0.43** | –20.0 |
| Taiwan | **TAIEX** | **14630.01** | –98.87 | **–0.67** | –19.7 |
| Thailand | **SET** | **1622.28** | –10.69 | **–0.65** | –2.1 |

Sources: FactSet; Dow Jones Market Data

### Percentage Gainers...

| Company | Symbol | Latest Session Close | Net chg | % chg | 52-Week High | Low | % chg |
|---|---|---|---|---|---|---|---|
| Prometheus Biosciences | RXDX | 95.80 | 59.74 | **165.67** | 111.99 | 21.50 | **186.0** |
| Vor Biopharma | VOR | 6.10 | 1.80 | **41.86** | 14.29 | 3.48 | **-56.3** |
| Summit Therapeutics | SMMT | 3.08 | 0.77 | **33.33** | 5.26 | 0.66 | **-39.8** |
| BioVie | BIVI | 5.89 | 1.24 | **26.67** | 8.26 | 1.33 | **6.5** |
| MongoDB | MDB | 178.30 | 33.61 | **23.23** | 570.58 | 135.15 | **-66.5** |
| Replimune Group | REPL | 23.09 | 4.20 | **22.23** | 30.89 | 13.05 | **-21.0** |
| Kintara Therapeutics | KTRA | 10.28 | 1.83 | **21.66** | 42.00 | 3.50 | **-71.1** |
| GoHealth | GOCO | 14.02 | 2.47 | **21.39** | 63.60 | 4.94 | **-76.0** |
| Presto Automation | PRST | 3.47 | 0.60 | **20.91** | 10.70 | 1.61 | **-65.3** |
| Global Consumer Cl A | GACQ | 10.21 | 1.70 | **19.98** | 11.35 | 8.48 | **2.9** |
| Mill City Ventures III | MCVT | 2.50 | 0.39 | **18.26** | 11.36 | 1.73 | **-65.9** |
| ProSh Ult Bbg Nat Gas | BOIL | 30.03 | 4.30 | **16.71** | 140.50 | 23.68 | **7.3** |
| Vera Bradley | VRA | 4.65 | 0.63 | **15.67** | 8.97 | 2.84 | **-43.4** |
| Academy Sports Outdoors | ASO | 56.87 | 7.57 | **15.35** | 57.57 | 25.10 | **31.2** |
| Good Times Restaurants | GTIM | 2.86 | 0.38 | **15.32** | 4.96 | 2.02 | **-36.6** |

### Percentage Losers

| Company | Symbol | Latest Session Close | Net chg | % chg | 52-Week High | Low | % chg |
|---|---|---|---|---|---|---|---|
| Ensysce Biosciences | ENSC | 1.04 | -1.19 | **-53.36** | 140.00 | 1.00 | **-98.3** |
| Carvana Cl A | CVNA | 3.83 | -2.88 | **-42.92** | 274.35 | 3.55 | **-98.6** |
| Daktronics | DAKT | 2.02 | -1.30 | **-39.16** | 5.38 | 1.46 | **-60.9** |
| KWESST Micro Systems | KWE | 3.17 | -1.78 | **-35.96** | 109.20 | 2.63 | **-96.7** |
| Mirati Therapeutics | MRTX | 49.59 | -21.93 | **-30.66** | 154.17 | 32.96 | **-65.1** |
| Tantech Holdings | TANH | 2.51 | -0.71 | **-22.05** | 154.70 | 1.82 | **-98.1** |
| ProSomnus | OSA | 6.80 | -1.89 | **-21.75** | 11.30 | 4.87 | **-30.8** |
| Lovesac | LOVE | 17.71 | -4.78 | **-21.25** | 85.13 | 17.60 | **-77.3** |
| Prelude Therapeutics | PRLD | 4.95 | -1.32 | **-21.05** | 15.57 | 3.87 | **-66.0** |
| Zuora | ZUO | 5.76 | -1.45 | **-20.11** | 20.43 | 5.70 | **-71.5** |
| KraneSh Glbl Carbon | KSET | 7.79 | -1.92 | **-19.81** | 25.31 | 7.47 | **...** |
| Smith Wesson Brands | SWBI | 9.49 | -2.31 | **-19.58** | 18.94 | 9.48 | **-46.8** |
| Appreciate Holdings | SFR | 4.25 | -0.95 | **-18.27** | 13.40 | 4.10 | **-56.5** |
| Ezcorp Cl A | EZPW | 8.64 | -1.92 | **-18.18** | 10.68 | 5.51 | **19.8** |
| ASP Isotopes | ASPI | 1.65 | -0.36 | **-17.91** | 3.75 | 1.63 | **...** |

### Most Active Stocks

| Company | Symbol | Volume (000) | % chg from 65-day avg | Latest Session Close | % chg | 52-Week High | Low |
|---|---|---|---|---|---|---|---|
| ProShares UltraPro QQQ | TQQQ | **172,343** | -24.9 | 20.57 | **-1.20** | 87.49 | 16.32 |
| ProSh UltraPro Shrt QQQ | SQQQ | **131,389** | -5.2 | 47.24 | **1.42** | 69.55 | 28.15 |
| Carvana Cl A | CVNA | **117,217** | 667.3 | 3.83 | **-42.92** | 274.35 | 3.55 |
| TransCode Therapeutics | RNAZ | **113,635** | 16498.6 | 0.98 | **133.44** | 3.13 | 0.37 |
| Mullen Automotive | MULN | **110,579** | -34.3 | 0.19 | **1.22** | 7.50 | 0.18 |
| ComSovereign | COMS | **107,033** | 91.5 | 0.10 | **-17.93** | 1.03 | 0.04 |
| Summit Therapeutics | SMMT | **98,922** | 3470.6 | 3.08 | **33.33** | 5.26 | 0.66 |
| Direxion Dly SCOND 3 BL | SOXL | **85,537** | -29.2 | 11.70 | **-0.17** | 74.21 | 6.21 |
| Tesla | TSLA | **83,928** | 5.8 | 174.04 | **-3.21** | 402.67 | 166.19 |
| Cosmos Holdings | COSM | **73,922** | 52.2 | 0.45 | **-4.23** | 4.45 | 0.07 |

* Volumes of 100,000 shares or more are rounded to the nearest thousand

### Volume Movers Ranked by change from 65-day average*

| Company | Symbol | Volume (000) | % chg from 65-day avg | Latest Session Close | % chg | 52-Week High | Low |
|---|---|---|---|---|---|---|---|
| Kairos Acquisition Cl A | KAIR | 11,395 | **15347** | 10.06 | **0.00** | 10.07 | 9.71 |
| Iron Spark I | ISAA | 5,563 | **10470** | 10.09 | **1.20** | 10.25 | 9.84 |
| Golden Falcon Acqn Cl A | GFX | 2,566 | **8865** | 10.06 | **0.20** | 10.07 | 9.67 |
| Invsc Glbl Prv Equity | PSP | 6,712 | **5405** | 9.72 | **0.21** | 15.99 | 8.09 |
| Franklin FTSE Taiwan ETF | FLTW | 682 | **4938** | 35.28 | **0.59** | 47.71 | 28.98 |
| AXIOS Sust Growth Cl A | AXAC | 450 | **2755** | 10.26 | **-0.10** | 10.27 | 9.94 |
| Aurora Tech Acqn Cl A | ATAK | 688 | **2751** | 10.17 | **0.00** | 10.18 | 9.54 |
| Mount Rainier Acqn | RNER | 777 | **2119** | 10.28 | **0.39** | 10.28 | 9.84 |
| Esperion Therapeutics | ESPR | 23,103 | **1978** | 6.33 | **-14.92** | 8.87 | 3.28 |
| Virtus Seix Senior Loan | SEIX | 609 | **1929** | 23.37 | **-0.19** | 26.20 | 22.97 |

* Common stocks priced at $2 a share or more with an average volume over 65 trading days of at least 5,000 shares †Has traded fewer than 65 days

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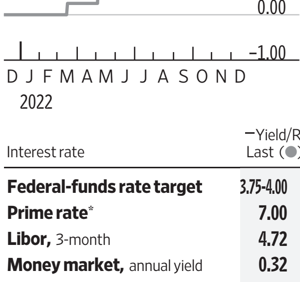
## CREDIT MARKETS

### Consumer Rates and Returns to Investor

#### U.S. consumer rates

A consumer rate against its benchmark over the past year




#### Selected rates

5-year CDs

| | |
|---|---|
| **Bankrate.com avg†:** | **2.65%** |
| **VirtualBank** | **3.51%** |
| Miami, FL | 877-998-2265 |
| **TAB Bank** | **4.00%** |
| Ogden, UT | 800-355-3063 |
| **Colorado Federal Savings Bank** | **4.10%** |
| Greenwood Village, CO | 877-484-2372 |
| **First Internet Bank of Indiana** | **4.39%** |
| Indianapolis, IN | 888-873-3424 |
| **CFG Community Bank** | **4.60%** |
| Baltimore, MD | 888-205-8388 |

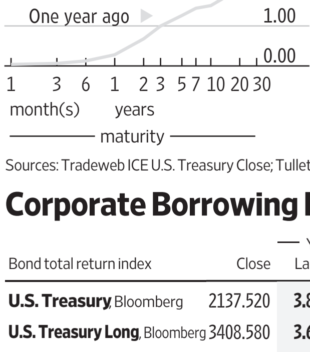
| Interest rate | Yield/Rate (%) Last (●) | Week ago | 52-Week Range (%) Low | High | 3-yr chg (pct pts) |
|---|---|---|---|---|---|
| **Federal-funds rate target** | **3.75-4.00** | 3.75-4.00 | 0.00 | 4.00 | **2.25** |
| **Prime rate*** | **7.00** | 7.00 | 3.25 | 7.00 | **2.25** |
| **Libor,** 3-month | **4.72** | 4.78 | 0.20 | 4.78 | **2.83** |
| **Money market,** annual yield | **0.32** | 0.31 | 0.07 | 0.32 | **-0.25** |
| **Five-year CD,** annual yield | **2.65** | 2.59 | 0.42 | 2.65 | **1.24** |
| **30-year mortgage,** fixed† | **6.76** | 6.84 | 3.21 | 7.41 | **2.86** |
| **15-year mortgage,** fixed† | **6.05** | 6.13 | 2.53 | 6.53 | **2.71** |
| **Jumbo mortgages,** $647,200-plus† | **6.78** | 6.87 | 3.21 | 7.44 | **2.55** |
| **Five-year adj mortgage** (ARM)† | **5.43** | 5.45 | 2.82 | 5.60 | **1.02** |
| **New-car loan,** 48-month | **6.46** | 6.44 | 3.41 | 6.69 | **2.05** |

Bankrate.com rates based on survey of over 4,800 online banks. *Base rate posted by 70% of the nation's largest banks.† Excludes closing costs.

Sources: FactSet; Dow Jones Market Data; Bankrate.com

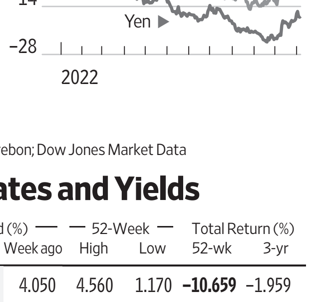
### Treasury yield curve

Yield to maturity of current bills, notes and bonds




### Forex Race

Yen, euro vs. dollar; dollar vs. major U.S. trading partners




Sources: Tradeweb ICE U.S. Treasury Close; Tullett Prebon; Dow Jones Market Data

### Corporate Borrowing Rates and Yields

| Bond total return index | Close | Yield (%) Last | Week ago | 52-Week High | Low | Total Return (%) 52-wk | 3-yr |
|---|---|---|---|---|---|---|---|
| **U.S. Treasury,** Bloomberg | 2137.520 | **3.860** | 4.050 | 4.560 | 1.170 | **–10.659** | –1.959 |
| **U.S. Treasury Long,** Bloomberg | 3408.580 | **3.610** | 3.960 | 4.570 | 1.820 | **–24.569** | –5.512 |
| **Aggregate,** Bloomberg | 1994.940 | **4.400** | 4.560 | 5.210 | 1.720 | **–11.117** | –1.939 |
| **Fixed-Rate MBS,** Bloomberg | 1978.010 | **4.520** | 4.590 | 5.380 | 1.960 | **–9.814** | –2.434 |
| **High Yield 100,** ICE BofA | 3144.133 | **7.909** | n.a. | 8.753 | 3.669 | **–8.825** | 0.059 |
| **Muni Master,** ICE BofA | 561.352 | **3.083** | 3.216 | 3.936 | 0.895 | **–6.691** | –0.181 |
| **EMBI Global,** J.P. Morgan | 774.828 | **7.569** | 7.744 | 9.159 | 4.892 | **–15.777** | –3.653 |

Sources: J.P. Morgan; Bloomberg Fixed Income Indices; ICE Data Services

## CURRENCIES & COMMODITIES

### Currencies

U.S.-dollar foreign-exchange rates in late New York trading

| Country/currency | Wed in US$ | per US$ | US$ vs, YTD chg (%) |
|---|---|---|---|
| **Americas** | | | |
| **Argentina** peso | .0059 | 169.7750 | **65.3** |
| **Brazil** real | .1921 | 5.2054 | **–6.6** |
| **Canada** dollar | .7324 | 1.3655 | **8.0** |
| **Chile** peso | .001154 | 866.90 | **1.7** |
| **Colombia** peso | .000207 | 4821.98 | **18.6** |
| **Ecuador** US dollar | 1 | 1 | **unch** |
| **Mexico** peso | .0508 | 19.6696 | **–4.1** |
| **Uruguay** peso | .02562 | 39.0250 | **–12.7** |
| **Asia-Pacific** | | | |
| **Australian** dollar | .6724 | 1.4872 | **8.0** |
| **China** yuan | .1434 | 6.9735 | **9.7** |
| **Hong Kong** dollar | .1283 | 7.7920 | **–0.1** |
| **India** rupee | .01216 | 82.228 | **10.4** |
| **Indonesia** rupiah | .0000639 | 15638 | **9.7** |
| **Japan** yen | .007320 | 136.62 | **18.7** |
| **Kazakhstan** tenge | .002113 | 473.35 | **8.8** |
| **Macau** pataca | .1245 | 8.0319 | **–0.1** |
| **Malaysia** ringgit | .2274 | 4.3975 | **5.6** |
| **New Zealand** dollar | .6355 | 1.5736 | **7.6** |
| **Pakistan** rupee | .00445 | 224.625 | **27.5** |
| **Philippines** peso | .0180 | 55.496 | **8.8** |
| **Singapore** dollar | .7377 | 1.3555 | **0.5** |
| **South Korea** won | .0007606 | 1314.77 | **10.6** |
| **Sri Lanka** rupee | .0027211 | 367.50 | **81.1** |
| **Taiwan** dollar | .03267 | 30.605 | **10.4** |
| **Thailand** baht | .02860 | 34.960 | **5.2** |
| **Vietnam** dong | .00004180 | 23925 | **4.7** |
| **Europe** | | | |
| **Czech Rep.** koruna | .04325 | 23.120 | **5.7** |
| **Denmark** krone | .1412 | 7.0808 | **8.3** |
| **Euro area** euro | 1.0507 | .9518 | **8.2** |
| **Hungary** forint | .002557 | 391.15 | **20.5** |
| **Iceland** krona | .007036 | 142.12 | **9.5** |
| **Norway** krone | .0997 | 10.0260 | **13.8** |
| **Poland** zloty | .2239 | 4.4666 | **10.9** |
| **Russia** ruble | .01575 | 63.500 | **–15.1** |
| **Sweden** krona | .0963 | 10.3859 | **14.7** |
| **Switzerland** franc | 1.0630 | .9407 | **3.1** |
| **Turkey** lira | .0536 | 18.6402 | **39.9** |
| **Ukraine** hryvnia | .0271 | 36.9500 | **35.1** |
| **UK** pound | 1.2207 | .8192 | **10.8** |
| **Middle East/Africa** | | | |
| **Bahrain** dinar | 2.6522 | .3771 | **0.03** |
| **Egypt** pound | .0406 | 24.6472 | **56.9** |
| **Israel** shekel | .2912 | 3.4340 | **10.5** |
| **Kuwait** dinar | 3.2592 | .3068 | **1.4** |
| **Oman** sul rial | 2.5974 | .3850 | **...** |
| **Qatar** rial | .2723 | 3.672 | **0.8** |
| **Saudi Arabia** riyal | .2659 | 3.7603 | **0.1** |
| **South Africa** rand | .0583 | 17.1567 | **7.6** |

| | Close | Net Chg | % Chg | YTD % Chg |
|---|---|---|---|---|
| **WSJ Dollar Index** | 98.03 | –0.35 | –0.36 | **9.47** |

Sources: Tullett Prebon, Dow Jones Market Data

### Commodities

| | Close | Wednesday Net chg | % Chg | 52-Week High | Low | % Chg | YTD % chg |
|---|---|---|---|---|---|---|---|
| DJ Commodity | **1015.34** | 1.67 | **0.16** | 1264.48 | 904.89 | **10.30** | 7.30 |
| Refinitiv/CC CRB Index | **265.89** | -1.57 | **-0.59** | 329.59 | 221.84 | **17.07** | 14.42 |
| Crude oil, $ per barrel | **72.01** | -2.24 | **-3.02** | 123.70 | 68.23 | **-0.48** | -4.25 |
| Natural gas, $/MMBtu | **5.723** | 0.254 | **4.64** | 9.680 | 3.561 | **50.01** | 53.43 |
| Gold, $ per troy oz. | **1785.50** | 16.20 | **0.92** | 2040.10 | 1623.30 | **0.12** | -2.30 |

# COMMODITIES

wsj.com/market-data/commodities

## Futures Contracts

### Metal & Petroleum Futures

| | Open | Contract High | hi lo | Low | Settle | Chg | Open interest |
|---|---|---|---|---|---|---|---|
| **Copper-High (CMX)**-25,000 lbs.; $ per lb. | | | | | | | |
| Dec | 3.8185 | 3.8570 | | 3.7775 | **3.8555** | 0.0440 | 3,278 |
| March'23 | 3.8210 | 3.8740 | | 3.7750 | **3.8605** | 0.0425 | 104,388 |
| **Gold (CMX)**-100 troy oz.; $ per troy oz. | | | | | | | |
| Dec | 1769.30 | 1790.30 | | 1769.30 | **1785.50** | 16.20 | 6,544 |
| Jan'23 | 1774.70 | 1796.10 | | 1774.30 | **1791.00** | 15.50 | 1,486 |
| Feb | 1783.30 | 1803.20 | | 1780.50 | **1798.00** | 15.60 | 356,503 |
| April | 1798.30 | 1817.90 | | 1796.80 | **1813.20** | 15.60 | 29,934 |
| June | 1812.10 | 1833.20 | | 1812.10 | **1828.80** | 15.60 | 14,135 |
| Aug | 1831.50 | 1848.40 | | 1829.40 | **1844.70** | 15.30 | 5,080 |
| **Palladium (NYM)** - 50 troy oz.; $ per troy oz. | | | | | | | |
| Dec | | | | | **1831.90** | 2.80 | 1 |
| March'23 | 1852.00 | 1882.50 | | 1839.00 | **1854.30** | 2.80 | 7,698 |
| **Platinum (NYM)**-50 troy oz.; $ per troy oz. | | | | | | | |
| Dec | | | | | **1024.50** | 16.10 | 1 |
| Jan'23 | 996.10 | 1024.90 | | 985.50 | **1011.50** | 16.10 | 50,142 |
| **Silver (CMX)**-5,000 troy oz.; $ per troy oz. | | | | | | | |
| Dec | 22.605 | 22.775 | | 22.500 | **22.710** | 0.587 | 2,077 |
| March'23 | 22.350 | 23.010 | | 22.255 | **22.922** | 0.587 | 107,586 |
| **Crude Oil, Light Sweet (NYM)**-1,000 bbls.; $ per bbl. | | | | | | | |
| Jan | 74.55 | 75.38 | | 71.75 | **72.01** | –2.24 | 256,212 |
| Feb | 74.73 | 75.53 | | 72.06 | **72.28** | –2.18 | 137,081 |
| March | 75.05 | 75.66 | | 72.33 | **72.52** | –2.11 | 144,980 |
| June | 75.22 | 75.83 | | 72.81 | **73.00** | –1.91 | 123,218 |
| Dec | 74.03 | 74.40 | | 71.72 | **71.97** | –1.69 | 166,733 |
| Dec'24 | 70.70 | 71.00 | | 68.90 | **69.06** | –1.41 | 63,402 |
| **NY Harbor ULSD (NYM)**-42,000 gal.; $ per gal. | | | | | | | |
| Jan | 2.9177 | 2.9375 | | 2.7647 | **2.7805** | –.1350 | 60,686 |
| March | 2.8400 | 2.8587 | | 2.7169 | **2.7256** | –.1095 | 37,823 |
| **Gasoline-NY RBOB (NYM)**-42,000 gal.; $ per gal. | | | | | | | |
| Jan | 2.1546 | 2.1690 | | 2.0698 | **2.0772** | –.0719 | 90,477 |
| Feb | 2.1665 | 2.1801 | | 2.0839 | **2.0886** | –.0720 | 37,446 |
| **Natural Gas (NYM)**-10,000 MMBtu.; $ per MMBtu. | | | | | | | |
| Jan | 5.388 | 5.850 | | 5.383 | **5.723** | .254 | 156,988 |
| Feb | 5.300 | 5.719 | | 5.298 | **5.617** | .239 | 68,793 |
| March | 4.883 | 5.265 | | 4.875 | **5.192** | .249 | 125,026 |
| April | 4.487 | 4.711 | | 4.482 | **4.671** | .150 | 103,105 |
| May | 4.497 | 4.678 | | 4.465 | **4.646** | .144 | 98,403 |
| Oct | 4.678 | 4.871 | | 4.676 | **4.832** | .128 | 50,884 |

### Agriculture Futures

| | Open | Contract High | hi lo | Low | Settle | Chg | Open interest |
|---|---|---|---|---|---|---|---|
| **Corn (CBT)**-5,000 bu.; cents per bu. | | | | | | | |
| Dec | 626.50 | 632.50 | | 624.00 | **627.75** | 2.25 | 1,635 |
| March'23 | 637.50 | 645.75 | | 635.00 | **641.25** | 4.00 | 587,608 |
| **Oats (CBT)**-5,000 bu.; cents per bu. | | | | | | | |
| Dec | | | | | **336.25** | –4.25 | 5 |
| March'23 | 338.25 | 344.00 | | 331.50 | **332.75** | –4.25 | 3,291 |
| **Soybeans (CBT)**-5,000 bu.; cents per bu. | | | | | | | |
| Jan | 1456.00 | 1478.00 | | 1455.75 | **1472.00** | 17.00 | 209,644 |
| March | 1462.00 | 1482.75 | | 1461.75 | **1477.25** | 15.75 | 170,451 |
| **Soybean Meal (CBT)**-100 tons; $ per ton. | | | | | | | |
| Dec | 453.10 | 464.10 | ▲ | 448.80 | **462.20** | 13.00 | 469 |
| March'23 | 445.50 | 460.70 | ▲ | 445.10 | **457.00** | 11.10 | 130,874 |
| **Soybean Oil (CBT)**-60,000 lbs.; cents per lb. | | | | | | | |
| Dec | 64.20 | 64.78 | | 63.92 | **63.15** | –.72 | 284 |
| March'23 | 61.20 | 61.98 | | 60.07 | **60.16** | –.84 | 131,897 |
| **Rough Rice (CBT)**-2,000 cwt.; $ per cwt. | | | | | | | |
| Jan | 16.82 | 16.88 | | 16.65 | **16.71** | –.13 | 5,458 |
| March | 17.17 | 17.23 | | 17.01 | **17.08** | –.12 | 1,601 |
| **Wheat (CBT)**-5,000 bu.; cents per bu. | | | | | | | |
| Dec | 727.25 | 728.75 | | 708.25 | **727.00** | 21.50 | 397 |
| March'23 | 732.25 | 756.25 | | 726.25 | **749.50** | 20.50 | 184,018 |
| **Wheat (KC)**-5,000 bu.; cents per bu. | | | | | | | |
| Dec | 866.00 | 866.00 | | 866.00 | **864.50** | 18.75 | 98 |
| March'23 | 832.00 | 853.50 | | 828.75 | **848.75** | 18.75 | 86,216 |
| **Cattle-Feeder (CME)**-50,000 lbs.; cents per lb. | | | | | | | |
| Jan | 181.500 | 182.250 | | 180.750 | **180.900** | –.900 | 21,463 |
| March | 183.850 | 184.450 | | 183.050 | **183.250** | –.900 | 11,723 |
| **Cattle-Live (CME)**-40,000 lbs.; cents per lb. | | | | | | | |
| Dec | 151.700 | 152.150 | | 151.225 | **151.925** | .375 | 13,196 |
| Feb'23 | 153.650 | 153.900 | | 152.750 | **153.550** | –.075 | 131,120 |
| **Hogs-Lean (CME)**-40,000 lbs.; cents per lb. | | | | | | | |
| Dec | 82.825 | 83.175 | | 82.325 | **82.375** | .100 | 14,880 |
| Feb'23 | 87.000 | 87.750 | | 85.950 | **86.650** | –.275 | 80,062 |
| **Lumber (CME)**-110,000 bd. ft., $ per 1,000 bd. ft. | | | | | | | |
| Jan | 414.50 | 436.40 | | 412.30 | **429.40** | 14.30 | 2,280 |
| March | 414.00 | 435.00 | | 414.00 | **426.60** | 14.10 | 654 |
| **Milk (CME)**-200,000 lbs., cents per lb. | | | | | | | |
| Dec | 20.50 | 20.50 | | 20.20 | **20.39** | –.08 | 4,672 |
| Jan'23 | 20.03 | 20.03 | | 19.41 | **19.62** | –.42 | 3,827 |
| **Cocoa (ICE-US)**-10 metric tons; $ per ton. | | | | | | | |
| Dec | | | | | **2,442** | 5 | 1 |
| March'23 | 2,476 | 2,509 | | 2,475 | **2,492** | 5 | 122,576 |
| **Coffee (ICE-US)**-37,500 lbs.; cents per lb. | | | | | | | |
| Dec | | | | | **157.70** | –3.35 | 1,312 |
| March'23 | 163.85 | 164.85 | | 159.05 | **160.20** | –3.30 | 110,881 |
| **Sugar-World (ICE-US)**-112,000 lbs.; cents per lb. | | | | | | | |
| March | 19.45 | 19.54 | | 19.27 | **19.48** | .09 | 384,413 |
| May | 18.30 | 18.41 | | 18.16 | **18.35** | .07 | 192,314 |
| **Sugar-Domestic (ICE-US)**-112,000 lbs.; cents per lb. | | | | | | | |
| Jan | | | | | **36.60** | –.13 | 167 |
| May | | | | | **36.90** | ... | 2,744 |
| **Cotton (ICE-US)**-50,000 lbs.; cents per lb. | | | | | | | |
| Dec | | | | | **82.61** | –2.78 | 81 |
| March'23 | 84.59 | 85.08 | | 81.17 | **81.83** | –2.76 | 105,154 |
| **Orange Juice (ICE-US)**-15,000 lbs.; cents per lb. | | | | | | | |
| Jan | 208.90 | 218.50 | | 208.25 | **218.50** | 10.00 | 7,366 |
| March | 202.80 | 210.00 | | 202.00 | **208.75** | 6.25 | 3,004 |

### Interest Rate Futures

| | Open | Contract High | hi lo | Low | Settle | Chg | Open interest |
|---|---|---|---|---|---|---|---|
| **Ultra Treasury Bonds (CBT)** - $100,000; pts 32nds of 100% | | | | | | | |
| Dec | 142-100 | 146-060 | | 142-040 | **146-070** | 3-02.0 | 3,877 |
| March'23 | 142-230 | 146-120 | | 142-060 | **146-100** | 3-01.0 | 1,420,823 |
| **Treasury Bonds (CBT)**-$100,000; pts 32nds of 100% | | | | | | | |
| Dec | 130-140 | 132-000 | | 129-260 | **131-310** | 1-16.0 | 4,127 |
| March'23 | 130-050 | 132-000 | | 129-240 | **131-300** | 1-17.0 | 1,166,521 |
| **Treasury Notes (CBT)**-$100,000; pts 32nds of 100% | | | | | | | |
| Dec | 114-025 | 114-290 | | 113-260 | **114-275** | 24.5 | 14,327 |
| March'23 | 114-075 | 115-065 | | 114-020 | **115-050** | 25.5 | 3,761,077 |
| **5 Yr. Treasury Notes (CBT)**-$100,000; pts 32nds of 100% | | | | | | | |
| Dec | 108-160 | 109-065 | | 108-160 | **109-062** | 17.7 | 6,278 |
| March'23 | 108-285 | 109-170 | | 108-255 | **109-160** | 17.7 | 4,124,044 |
| **2 Yr. Treasury Notes (CBT)**-$200,000; pts 32nds of 100% | | | | | | | |
| Dec | 102-156 | 102-233 | | 102-148 | **102-218** | 6.7 | 11,048 |
| March'23 | 102-222 | 102-312 | | 102-216 | **102-301** | 7.0 | 2,098,937 |
| **30 Day Federal Funds (CBT)**-$5,000,000; 100 - daily avg. | | | | | | | |
| Dec | 95.8825 | 95.8850 | | 95.8800 | **95.8825** | .0000 | 250,751 |
| Jan'23 | 95.6450 | 95.6550 | | 95.6450 | **95.6500** | .0000 | 389,028 |
| **10 Yr. Del. Int. Rate Swaps (CBT)**-$100,000; pts 32nds of 100% | | | | | | | |
| Dec | 94-095 | 94-280 | | 93-200 | **94-250** | 23.0 | 16,390 |
| **Three-Month SOFR (CME)**-$1,000,000; 100 - daily avg. | | | | | | | |
| Sept | 96.5250 | 96.5275 | | 96.5250 | **96.5275** | .0000 | 618,360 |
| June'23 | 95.0550 | 95.1600 | | 95.0450 | **95.1250** | .0650 | 1,120,956 |
| **Eurodollar (CME)**-$1,000,000; pts of 100% | | | | | | | |
| Dec | 95.1750 | 95.2125 | | 95.1725 | **95.2050** | .0275 | 1,351,756 |
| March'23 | 94.8500 | 94.9150 | | 94.8450 | **94.8900** | .0400 | 827,743 |
| Sept | 94.9500 | 95.0800 | | 94.9450 | **95.0550** | .0900 | 684,455 |
| Dec | 95.2700 | 95.4300 | | 95.2600 | **95.4100** | .1200 | 758,791 |

### Currency Futures

| | Open | Contract High | hi lo | Low | Settle | Chg | Open interest |
|---|---|---|---|---|---|---|---|
| **Japanese Yen (CME)**-¥12,500,000; $ per 100¥ | | | | | | | |
| Dec | .7310 | .7352 | | .7265 | **.7348** | .0032 | 205,745 |
| March'23 | .7399 | .7438 | | .7351 | **.7434** | .0032 | 16,560 |
| **Canadian Dollar (CME)**-CAD 100,000; $ per CAD | | | | | | | |
| Dec | .7326 | .7359 | | .7300 | **.7326** | .0008 | 136,481 |
| March'23 | .7337 | .7366 | | .7311 | **.7335** | .0005 | 10,117 |
| **British Pound (CME)**-£62,500; $ per £ | | | | | | | |
| Dec | 1.2136 | 1.2239 | | 1.2111 | **1.2218** | .0069 | 216,474 |
| March'23 | 1.2165 | 1.2267 | | 1.2141 | **1.2247** | .0069 | 11,370 |
| **Swiss Franc (CME)**-CHF 125,000; $ per CHF | | | | | | | |
| Dec | 1.0629 | 1.0693 | | 1.0610 | **1.0657** | .0027 | 38,914 |
| March'23 | 1.0729 | 1.0802 | | 1.0719 | **1.0766** | .0027 | 900 |
| **Australian Dollar (CME)**-AUD 100,000; $ per AUD | | | | | | | |
| Dec | .6692 | .6745 | | .6671 | **.6734** | .0043 | 145,525 |
| March'23 | .6722 | .6769 | | .6697 | **.6758** | .0042 | 12,873 |
| **Mexican Peso (CME)**-MXN 500,000; $ per MXN | | | | | | | |
| Dec | .05044 | .05084 | | .05032 | **.05076** | .00033 | 288,454 |
| March'23 | .04975 | .05011 | | .04959 | **.05001** | .00032 | 5,178 |
| **Euro (CME)**-€125,000; $ per € | | | | | | | |
| Dec | 1.0474 | 1.0560 | | 1.0453 | **1.0524** | .0050 | 649,672 |
| March'23 | 1.0543 | 1.0629 | | 1.0521 | **1.0592** | .0050 | 50,530 |

### Index Futures

| | Open | Contract High | hi lo | Low | Settle | Chg | Open interest |
|---|---|---|---|---|---|---|---|
| **Mini DJ Industrial Average (CBT)**-$5 x index | | | | | | | |
| Dec | 33638 | 33818 | | 33462 | **33625** | –8 | 76,197 |
| March'23 | 33876 | 34053 | | 33702 | **33865** | –11 | 5,527 |
| **Mini S&P 500 (CME)**-$50 x index | | | | | | | |
| Dec | 3944.50 | 3961.50 | | 3914.00 | **3936.75** | –8.25 | 2,140,167 |
| March'23 | 3975.50 | 3992.50 | | 3945.75 | **3967.75** | –8.75 | 140,920 |
| **Mini S&P Midcap 400 (CME)**-$100 x index | | | | | | | |
| Dec | 2479.10 | 2500.70 | | 2467.00 | **2478.10** | –4.10 | 44,171 |
| March'23 | 2498.70 | 2515.50 | | 2485.40 | **2495.00** | –4.80 | 46 |
| **Mini Nasdaq 100 (CME)**-$20 x index | | | | | | | |
| Dec | 11566.00 | 11596.25 | | 11422.50 | **11509.50** | –56.50 | 239,590 |
| March'23 | 11684.50 | 11707.75 | | 11535.50 | **11622.50** | –55.25 | 9,850 |
| **Mini Russell 2000 (CME)**-$50 x index | | | | | | | |
| Dec | 1814.00 | 1827.60 | | 1803.40 | **1808.00** | –6.10 | 472,405 |
| March'23 | 1830.90 | 1842.00 | | 1818.30 | **1822.20** | –6.60 | 10,035 |
| **Mini Russell 1000 (CME)**-$50 x index | | | | | | | |
| Dec | 2166.00 | 2171.80 | | 2152.10 | **2158.50** | –4.00 | 10,903 |
| **U.S. Dollar Index (ICE-US)**-$1,000 x index | | | | | | | |
| Dec | 105.57 | 105.80 | | 104.82 | **105.06** | –.49 | 42,490 |
| March'23 | 105.25 | 105.45 | | 104.49 | **104.73** | –.47 | 2,447 |

Source: FactSet

## Cash Prices | wsj.com/market-data/commodities

Wednesday, December 07, 2022

These prices reflect buying and selling of a variety of actual or "physical" commodities in the marketplace—separate from the futures price on an exchange, which reflects what the commodity might be worth in future months.

| | Wednesday |
|---|---|
| **Energy** | |
| Coal,C.Aplc.,12500Btu,1.2SO2-r,w | 193.450 |
| Coal,PwdrRvrBsn,8800Btu,0.8SO2-r,w | 15.850 |
| **Metals** | |
| **Gold, per troy oz** | |
| Engelhard industrial | 1783.00 |
| Handy & Harman base | 1782.20 |
| Handy & Harman fabricated | 1978.24 |
| LBMA Gold Price AM | *1773.35 |
| LBMA Gold Price PM | *1773.80 |
| Krugerrand,wholesale-e | 1866.58 |
| Maple Leaf-e | 1911.23 |
| American Eagle-e | 1911.23 |
| Mexican peso-e | 2304.37 |
| Austria crown-e | 1753.83 |
| Austria phil-e | 1875.51 |
| **Silver, troy oz.** | |
| Engelhard industrial | 22.8000 |
| Handy & Harman base | 22.6800 |
| Handy & Harman fabricated | 28.3500 |
| LBMA spot price | *£18.4600 |
| (U.S.$ equivalent) | *22.5400 |
| Coins,wholesale $1,000 face-a | 22494 |
| **Other metals** | |
| LBMA Platinum Price PM | *998.0 |
| Platinum,Engelhard industrial | 1011.0 |
| Palladium,Engelhard industrial | 1858.0 |
| Aluminum, LME, $ per metric ton | *2461.0 |
| Copper,Comex spot | 3.8555 |
| Iron Ore, 62% Fe CFR China-s | 107.5 |
| Shredded Scrap, US Midwest-s,m | n.a. |
| Steel, HRC USA, FOB Midwest Mill-s | 670 |
| **Battery/EV metals** | |
| BMI Lithium Carbonate, EXW China, =99.2%-v,w | 81375 |
| BMI Lithium Hydroxide, EXW China, =56.5% -v,w | 80725 |
| BMI Cobalt sulphate, EXW China, >20.5% -v,m | 8190 |
| BMI Nickel Sulphate, EXW China, >22%-v,m | 5635 |
| BMI Flake Graphite, FOB China, -100 Mesh, 94-95% -v,m | 813 |
| **Fibers and Textiles** | |
| Burlap,10-oz,40-inch NY yd-n,w | 0.7400 |
| Cotton,1 1/16 std lw-mdMphs-u | 0.8258 |
| Cotlook 'A' Index-t | *102.10 |
| Hides,hvy native steers piece fob-u | n.a. |
| Wool,64s,staple,Terr del-u,w | n.a. |
| **Grains and Feeds** | |
| Barley,top-quality Mnpls-u | n.a. |
| Bran,wheat middlings, KC-u,w | 253 |
| Corn,No. 2 yellow,Cent IL-bp,u | 6.3000 |
| Corn gluten feed,Midwest-u,w | 204.4 |
| Corn gluten meal,Midwest-u,w | n.a. |
| Cottonseed meal-u,w | 393 |
| Hominy feed,Cent IL-u,w | n.a. |
| Meat-bonemeal,50% pro Mnpls-u,w | 365 |
| Oats,No.2 milling,Mnpls-u | 4.1775 |
| Rice, Long Grain Milled, No. 2 AR-u,w | 36.13 |
| Sorghum,(Milo) No.2 Gulf-u | n.a. |
| SoybeanMeal,Cent IL,rail,ton48%-u,w | 445.50 |
| Soybeans,No.1 yllw IL-bp,u | 14.5900 |
| Wheat,Spring14%-pro Mnpls-u | 11.4700 |
| Wheat,No.2 soft red,St.Louis-u | 7.1200 |
| Wheat - Hard - KC (USDA) $ per bu-u | 9.0375 |
| Wheat,No.1soft white,Portld,OR-u | 8.7000 |
| **Food** | |
| Beef,carcass equiv. index | |
| choice 1-3,600-900 lbs.-u | 233.98 |
| select 1-3,600-900 lbs.-u | 208.31 |
| Broilers, National comp wtd. avg.-u,w | 1.2529 |
| Butter,AA Chicago-d | 2.8875 |
| Cheddar cheese,bbl,Chicago-d | 192.00 |
| Cheddar cheese,blk,Chicago-d | 210.75 |
| Milk,Nonfat dry,Chicago lb.-d | 138.25 |
| Coffee,Brazilian,Comp-y | 1.6525 |
| Coffee,Colombian, NY-y | 2.2038 |
| Eggs,large white,Chicago-u | 4.2950 |
| Flour,hard winter KC-p | 21.35 |
| Hams,17-20 lbs,Mid-US fob-u | 0.91 |
| Hogs,Iowa-So. Minnesota-u | 82.82 |
| Pork bellies,12-14 lb MidUS-u | n.a. |
| Pork loins,13-19 lb MidUS-u | 1.1636 |
| Steers,Tex.-Okla. Choice-u | 155.00 |
| Steers,feeder,Okla. City-u,w | 194.25 |
| **Fats and Oils** | |
| Degummed corn oil, crude wtd. avg.-u,w | 60.0000 |
| Grease,choice white,Chicago-h | 0.7250 |
| Lard,Chicago-u | n.a. |
| Soybean oil,crude;Centl IL-u,w | 0.7016 |
| Tallow,bleach;Chicago-h | 0.7400 |
| Tallow,edible,Chicago-u | 0.7850 |

KEY TO CODES: A=ask; B=bid; BP=country elevator bids to producers; C=corrected; D=CME; E=Manfra,Tordella & Brookes; H=American Commodities Brokerage Co; K=bi-weekly; M=monthly; N=nominal; n.a.=not quoted or not available; P=Sosland Publishing; R=SNL Energy; S=Platts-TSI; T=Cotlook Limited; U=USDA; V=Benchmark Mineral Intelligence; W=weekly; Y=International Coffee Organization; Z=not quoted. *Data as of 12/6

Source: Dow Jones Market Data

## Borrowing Benchmarks | wsj.com/market-data/bonds/benchmarks

### Money Rates

December 7, 2022

Key annual interest rates paid to borrow or lend money in U.S. and international markets. Rates below are a guide to general levels but don't always represent actual transactions.

**Inflation**

| | Oct. index level | Chg From (%) Sept. '22 | Oct. '21 |
|---|---|---|---|
| **U.S. consumer price index** | | | |
| All items | **298.012** | 0.41 | 7.7 |
| Core | **299.315** | 0.29 | 6.3 |

**International rates**

| | Latest | Week ago | 52-Week High | Low |
|---|---|---|---|---|
| **Prime rates** | | | | |
| U.S. | **7.00** | 7.00 | 7.00 | 3.25 |
| Canada | **5.95** | 5.95 | 5.95 | 2.45 |
| Japan | **1.475** | 1.475 | 1.475 | 1.475 |
| **Policy Rates** | | | | |
| Euro zone | **2.00** | 2.00 | 2.00 | 0.00 |
| Switzerland | **1.00** | 1.00 | 1.00 | 0.00 |
| Britain | **3.00** | 3.00 | 3.00 | 0.10 |
| Australia | **3.10** | 2.85 | 3.10 | 0.10 |
| **Overnight repurchase** | | | | |
| U.S. | **3.82** | 3.77 | 3.85 | 0.01 |

**U.S. government rates**

| | Latest | Week ago | 52-WEEK High | Low |
|---|---|---|---|---|
| **Discount** | **4.00** | 4.00 | 4.00 | 0.25 |
| **Federal funds** | | | | |
| Effective rate | **3.8400** | 3.8400 | 3.8400 | 0.0800 |
| High | **4.0500** | 4.0500 | 4.1000 | 0.0900 |
| Low | **3.8100** | 3.8100 | 3.8200 | 0.0500 |
| Bid | **3.8300** | 3.8300 | 3.8300 | 0.0600 |
| Offer | **3.8500** | 3.8700 | 3.8800 | 0.0800 |
| **Treasury bill auction** | | | | |
| 4 weeks | **3.950** | 3.970 | 3.970 | 0.020 |
| 13 weeks | **4.270** | 4.285 | 4.285 | 0.055 |
| 26 weeks | **4.570** | 4.550 | 4.570 | 0.105 |
| **Secondary market** | | | | |
| **Fannie Mae** | | | | |
| 30-year mortgage yields | | | | |
| 30 days | **5.775** | 5.905 | 6.812 | 2.518 |
| 60 days | **5.802** | 5.924 | 6.988 | 2.556 |

**Other short-term rates**

| | Latest | Week ago | 52-Week high | low |
|---|---|---|---|---|
| **Call money** | **5.75** | 5.75 | 5.75 | 2.00 |
| **Commercial paper (AA financial)** | | | | |
| 90 days | **4.57** | 4.49 | 4.63 | 0.13 |
| **Libor** | | | | |
| One month | **4.23614** | 4.14200 | 4.23614 | 0.10125 |
| Three month | **4.72343** | 4.77857 | 4.77857 | 0.19825 |
| Six month | **5.17243** | 5.20343 | 5.22529 | 0.28813 |
| One year | **5.52457** | 5.57157 | 5.66643 | 0.48875 |
| **Secured Overnight Financing Rate** | **3.80** | 3.81 | 3.82 | 0.04 |

| | Latest | Value Traded | 52-Week High | Low |
|---|---|---|---|---|
| **DTCC GCF Repo Index** | | | | |
| Treasury | **3.804** | 33.468 | 3.842 | 0.023 |
| MBS | **3.862** | 27.850 | 3.895 | 0.032 |

**Notes on data:**

**U.S. prime rate** is the base rate on corporate loans posted by at least 70% of the 10 largest U.S. banks, and is effective November 3, 2022. **Other prime rates** aren't directly comparable; lending practices vary widely by location; **Discount rate** is effective November 3, 2022. **Secured Overnight Financing Rate** is as of December 6, 2022. **DTCC GCF Repo Index** is Depository Trust & Clearing Corp.'s weighted average for overnight trades in applicable CUSIPs. Value traded is in billions of U.S. dollars. **Federal-funds rates** are Tullett Prebon rates as of 5:30 p.m. ET.

Sources: Federal Reserve; Bureau of Labor Statistics; DTCC; FactSet; Tullett Prebon Information, Ltd.

## Macro & Market Economics

### Watching the Gauges: U.S. Supply and Demand

Inventories, imports and demand for the week ended December 2. Current figures are in thousands of barrels or thousands of gallons per day, except natural-gas figures, which are in billions of cubic feet. Natural-gas import and demand data are available monthly only.

**Inventories,** 000s barrels

| | Current | Expected change | Previous week | Year ago | 4-week avg | 5-year avg |
|---|---|---|---|---|---|---|
| Crude oil and petroleum prod | 1,217,189 | ... | 1,211 | 1,226 | 1,216 | 1,262 |
| Crude oil excluding SPR | 413,898 | -1,400 | 419 | 433 | 425 | 451 |
| Gasoline | 219,087 | ... | 214 | 219 | 213 | 231 |
| Finished gasoline | 15,502 | 1,500 | 17 | 18 | 16 | 23 |
| Reformulated | 26 | ... | 0 | 0 | 0 | 0 |
| Conventional | 15,476 | ... | 17 | 18 | 16 | 23 |
| Blend. components | 203,586 | ... | 197 | 202 | 197 | 207 |
| Natural gas (bcf) | 3,483 | ... | 4 | 4 | 4 | 3 |
| Kerosene-type jet fuel | 37,972 | ... | 36 | 37 | 37 | 38 |
| Distillates | 118,807 | 800 | 113 | 127 | 112 | 130 |
| Heating oil | 7,946 | ... | 9 | 8 | 9 | 9 |
| Diesel | 110,862 | ... | 104 | 118 | 103 | 60 |
| Residual fuel oil | 28,998 | ... | 30 | 27 | 29 | 30 |
| Other oils | 285,491 | ... | 286 | 290 | 288 | 285 |
| Net crude, petroleum products, incl. SPR | 1,604,208 | ... | 1,600 | 1,827 | 1,606 | 1,898 |

**Imports,** 000s barrels per day

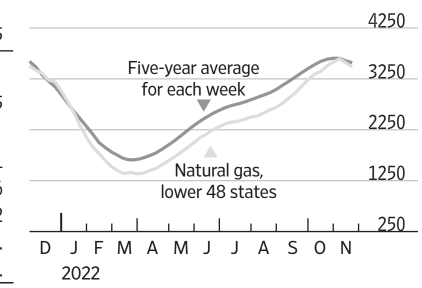
| | Current | Expected change | Previous week | Year ago | 4-week avg | 5-year avg |
|---|---|---|---|---|---|---|
| Crude oil and petroleum prod | 8,331 | ... | 7,946 | 8,472 | 8,200 | 9,072 |
| Crude oil excluding SPR | 6,012 | ... | 6,037 | 6,499 | 6,168 | 6,746 |
| Gasoline | 519 | ... | 535 | 558 | 553 | 542 |
| Finished gasoline | 119 | ... | 112 | 10 | 124 | 39 |
| Reformulated | 0 | ... | 0 | 0 | 0 | 0 |
| Conventional | 119 | ... | 112 | 10 | 124 | 39 |
| Blend. components | 400 | ... | 423 | 547 | 429 | 503 |
| Natural gas (bcf) | ... | ... | ... | ... | ... | ... |
| Kerosene-type jet fuel | 52 | ... | 149 | 45 | 111 | 205 |
| Distillates | 372 | ... | 152 | 269 | 189 | 328 |
| Heating oil | 0 | ... | 0 | 31 | 0 | 21 |
| Diesel | 372 | ... | 152 | 238 | 189 | 306 |
| Residual fuel oil | 233 | ... | 180 | 185 | 175 | 226 |
| Other oils | 989 | ... | 697 | 779 | 868 | 860 |
| Net crude, petroleum products, incl. SPR | -1,394 | ... | -3,830 | 939 | -2,129 | 1,173 |

**Weekly Demand,** 000s barrels per day

| | Current | Expected change | Previous week | Year ago | 4-week avg | 5-year avg |
|---|---|---|---|---|---|---|
| Total petroleum product | 19,626 | ... | 19,717 | 19,837 | 20,077 | 21,565 |
| Finished motor gasoline | 8,358 | ... | 8,317 | 8,963 | 8,436 | 9,105 |
| Kerosene-type jet fuel | 1,386 | ... | 1,731 | 1,220 | 1,570 | 1,701 |
| Distillates | 3,550 | ... | 3,656 | 3,578 | 3,729 | 4,366 |
| Residual fuel oil | 438 | ... | 284 | 509 | 321 | 392 |
| Propane/propylene | 1,293 | ... | 910 | 1,615 | 1,005 | ... |
| Other oils | 4,602 | ... | 4,820 | 3,952 | 5,017 | ... |

**Natural gas storage**

Billions of cubic feet; weekly totals




Note: Expected changes are provided by Dow Jones Newswires' survey of analysts. Previous and average inventory data are in millions.
Sources: FactSet; Dow Jones Market Data; U.S. Energy Information Administration; Dow Jones Newswires

## Bonds | wsj.com/market-data/bonds/benchmarks

### Tracking Bond Benchmarks

Return on investment and spreads over Treasurys and/or yields paid to investors compared with 52-week highs and lows for different types of bonds

| Total return close | YTD total return (%) | Index | Yield (%) Latest | Low | High |
|---|---|---|---|---|---|
| **Broad Market** Bloomberg Fixed Income Indices | | | | | |
| 1994.94 | **-11.0** | U.S. Aggregate | 4.400 | 1.720 | 5.210 |
| **U.S. Corporate Indexes** Bloomberg Fixed Income Indices | | | | | |
| 2949.22 | **-13.5** | U.S. Corporate | 5.080 | 2.310 | 6.130 |
| 2812.28 | **-8.5** | Intermediate | 5.050 | 1.810 | 6.050 |
| 4027.90 | **-21.1** | Long term | 5.140 | 3.050 | 6.370 |
| 578.60 | **-14.3** | Double-A-rated | 4.420 | 2.000 | 5.320 |
| 781.30 | **-13.7** | Triple-B-rated | 5.360 | 2.540 | 6.440 |
| **High Yield Bonds** ICE BofA | | | | | |
| 468.17 | **-10.3** | High Yield Constrained | 8.629 | 4.198 | 9.623 |
| 423.82 | **-15.9** | Triple-C-rated | 15.353 | 7.617 | 16.916 |
| 3144.13 | **-9.5** | High Yield 100 | 7.909 | 3.669 | 8.753 |
| 408.37 | **-11.3** | Global High Yield Constrained | 8.682 | 4.601 | 9.945 |
| 312.11 | **-10.6** | Europe High Yield Constrained | 7.165 | 2.822 | 8.508 |
| **U.S Agency** Bloomberg Fixed Income Indices | | | | | |
| 1701.04 | **-7.3** | U.S Agency | 4.360 | 1.090 | 4.910 |
| 1502.06 | **-6.1** | 10-20 years | 4.360 | 0.990 | 4.890 |
| 3338.39 | **-20.2** | 20-plus years | 4.430 | 2.070 | 5.240 |
| 2571.91 | **-10.8** | Yankee | 4.940 | 1.950 | 5.840 |
| **Mortgage-Backed** Bloomberg Fixed Income Indices | | | | | |
| 1978.01 | **-9.9** | Mortgage-Backed | 4.520 | 1.960 | 5.380 |
| 1943.11 | **-9.0** | Ginnie Mae (GNMA) | 4.620 | 1.990 | 5.370 |
| 1165.17 | **-10.0** | Fannie mae (FNMA) | 4.490 | 1.950 | 5.390 |
| 1778.41 | **-10.7** | Freddie Mac (FHLMC) | 4.510 | 1.950 | 5.370 |
| 561.35 | **-6.8** | Muni Master | 3.083 | 0.895 | 3.936 |
| 400.32 | **-5.9** | 7-12 year | 2.824 | 0.918 | 3.794 |
| 448.41 | **-8.8** | 12-22 year | 3.579 | 1.180 | 4.428 |
| 419.67 | **-13.6** | 22-plus year | 4.319 | 1.673 | 5.131 |
| **Global Government** J.P. Morgan† | | | | | |
| 538.19 | **-10.2** | Global Government | 2.680 | 0.870 | 3.250 |
| 786.38 | **-6.2** | Canada | 2.890 | 1.430 | 3.780 |
| 353.14 | **-13.0** | EMU§ | 2.461 | 0.271 | 3.215 |
| 658.29 | **-13.4** | France | 2.290 | 0.150 | 2.980 |
| 468.85 | **-12.7** | Germany | 1.730 | -0.350 | 2.400 |
| 282.01 | **-4.3** | Japan | 0.830 | 0.310 | 0.910 |
| 510.51 | **-14.3** | Netherlands | 1.970 | -0.200 | 2.720 |
| 819.48 | **-21.0** | U.K. | 3.310 | 0.740 | 4.690 |
| 774.83 | **-15.7** | Emerging Markets ** | 7.569 | 4.892 | 9.159 |

*Constrained indexes limit individual issuer concentrations to 2%; the High Yield 100 are the 100 largest bonds † In local currency § Euro-zone bonds
** EMBI Global Index
Sources: ICE Data Services; Bloomberg Fixed Income Indices; J.P.Morgan

### Global Government Bonds: Mapping Yields

Yields and spreads over or under U.S. Treasurys on benchmark two-year and 10-year government bonds in selected other countries; arrows indicate whether the yield rose(▲) or fell (▼) in the latest session

| Coupon (%) | Country/ Maturity, in years | Yield (%) Latest | Previous | Month ago | Year ago | Spread Under/Over U.S. Treasurys, in basis points Latest | Prev | Year ago |
|---|---|---|---|---|---|---|---|---|
| 4.500 | U.S. 2 | 4.256 ▼ | 4.358 | 4.726 | 0.687 | | | |
| 4.125 | 10 | 3.407 ▼ | 3.512 | 4.212 | 1.479 | | | |
| 0.250 | Australia 2 | 3.084 ▲ | 3.072 | 3.293 | 0.358 | -115.8 | -129.4 | -33.7 |
| 1.750 | 10 | 3.368 ▼ | 3.410 | 3.918 | 1.655 | -4.6 | -12.4 | 17.9 |
| 0.000 | France 2 | 2.087 ▲ | 2.072 | 2.281 | -0.762 | -215.4 | -229.5 | -145.7 |
| 2.000 | 10 | 2.246 ▼ | 2.258 | 2.854 | -0.027 | -116.8 | -127.5 | -150.3 |
| 2.200 | Germany 2 | 2.008 ▼ | 2.065 | 2.214 | -0.702 | -223.4 | -230.2 | -139.7 |
| 1.700 | 10 | 1.786 ▼ | 1.804 | 2.344 | -0.374 | -162 | -173.0 | -185.0 |
| 0.000 | Italy 2 | 2.466 ▼ | 2.551 | 2.909 | -0.231 | -177 | -181.6 | -92.6 |
| 2.500 | 10 | 3.615 ▼ | 3.660 | 4.472 | 0.916 | 20.1 | 12.7 | -56.0 |
| 0.005 | Japan 2 | -0.009 ▲ | -0.015 | -0.039 | -0.114 | -425.1 | -438.1 | -81.0 |
| 0.200 | 10 | 0.255 ▲ | 0.253 | 0.258 | 0.055 | -315.9 | -328.1 | -142.1 |
| 0.000 | Spain 2 | 2.223 ▼ | 2.275 | 2.376 | -0.593 | -201.8 | -209.2 | -128.8 |
| 2.550 | 10 | 2.764 ▼ | 2.807 | 3.360 | 0.341 | -65.0 | -72.6 | -113.5 |
| 0.125 | U.K. 2 | 3.230 ▼ | 3.245 | 3.190 | 0.464 | -101.2 | -112.2 | -23.2 |
| 4.250 | 10 | 3.046 ▼ | 3.081 | 3.632 | 0.735 | -36.9 | -45.2 | -74.1 |

Source: Tullett Prebon, Tradeweb ICE U.S. Treasury Close

### Corporate Debt

Prices of firms' bonds reflect factors including investors' economic, sectoral and company-specific expectations

**Investment-grade spreads that tightened the most...**

| Issuer | Symbol | Coupon (%) | Yield (%) | Maturity | Spread*, in basis points Current | One-day change | Last week |
|---|---|---|---|---|---|---|---|
| Cummins | CMI | 6.750 | 4.91 | Feb. 15, '27 | 121 | –19 | n.a. |
| Kimberly–Clark | KMB | 6.375 | 4.81 | Jan. 1, '28 | 111 | –16 | n.a. |
| UBS | UBS | 4.125 | 5.14 | April 15, '26 | 142 | –13 | n.a. |
| Wells Fargo | WFC | 3.900 | 5.04 | May 1, '45 | 134 | –13 | 140 |
| BNP Paribas | BNP | 3.375 | 5.09 | Jan. 9, '25 | 107 | –11 | n.a. |
| Eaton | ETN | 4.000 | 4.58 | Nov. 2, '32 | 116 | –11 | 122 |
| Wisconsin Power and Light | ... | 6.375 | 5.48 | Aug. 15, '37 | 202 | –11 | n.a. |
| Bank of America | BAC | 3.500 | 4.61 | April 19, '26 | 94 | –9 | 103 |

**...And spreads that widened the most**

| Issuer | Symbol | Coupon (%) | Yield (%) | Maturity | Current | One-day change | Last week |
|---|---|---|---|---|---|---|---|
| Blackstone Private Credit Fund | BCRED | 7.050 | 7.42 | Sept. 29, '25 | 343 | 65 | n.a. |
| PG&E | PCG | 3.150 | 5.61 | Jan. 1, '26 | 189 | 20 | n.a. |
| Celanese | CE | 6.050 | 6.11 | March 15, '25 | 208 | 19 | 215 |
| Caterpillar Financial Services | ... | 3.650 | 4.45 | Aug. 12, '25 | 43 | 17 | 34 |
| UBS | UBS | 4.125 | 5.05 | Sept. 24, '25 | 103 | 16 | 116 |
| Credit Suisse | CS | 3.750 | 8.92 | March 26, '25 | 490 | 15 | 515 |
| HSBC Holdings | HSBC | 4.300 | 5.39 | March 8, '26 | 165 | 12 | 150 |
| Banco Bilbao Vizcaya Argentaria | BBVASM | 1.125 | 5.23 | Sept. 18, '25 | 115 | 11 | 112 |

**High-yield issues with the biggest price increases...**

| Issuer | Symbol | Coupon (%) | Yield (%) | Maturity | Bond Price as % of face value Current | One-day change | Last week |
|---|---|---|---|---|---|---|---|
| Kohl's | KSS | 6.000 | 8.07 | Jan. 15, '33 | 85.875 | 2.38 | n.a. |
| WeWork | WEWORK | 7.875 | 42.89 | May 1, '25 | 50.500 | 1.25 | 51.328 |
| Sprint Capital | ... | 6.875 | 5.60 | Nov. 15, '28 | 106.367 | 0.93 | 105.961 |
| Ford Motor Credit | ... | 3.370 | 6.06 | Nov. 17, '23 | 97.580 | 0.71 | 96.921 |
| Barclays | BACR | 5.200 | 5.94 | May 12, '26 | 97.738 | 0.70 | 97.310 |
| American Airlines | AAL | 11.750 | 7.79 | July 15, '25 | 109.138 | 0.54 | 111.115 |
| Hughes Satellite Systems | SATS | 6.625 | 8.39 | Aug. 1, '26 | 94.530 | 0.53 | 93.535 |
| Liberty Interactive | LINTA | 8.250 | 21.57 | Feb. 1, '30 | 52.500 | 0.50 | 51.000 |

**...And with the biggest price decreases**

| Issuer | Symbol | Coupon (%) | Yield (%) | Maturity | Current | One-day change | Last week |
|---|---|---|---|---|---|---|---|
| Toledo Hospital | TOLHOS | 6.015 | 9.25 | Nov. 15, '48 | 68.391 | –4.61 | 73.125 |
| Telecom Italia Capital | TITIM | 6.375 | 9.18 | Nov. 15, '33 | 80.880 | –1.62 | 82.562 |
| American Airlines | AAL | 3.750 | 10.86 | March 1, '25 | 86.250 | –1.09 | 87.500 |
| Lumen Technologies | LUMN | 7.600 | 12.12 | Sept. 15, '39 | 67.890 | –0.98 | 70.000 |
| Transocean | RIG | 6.800 | 12.40 | March 15, '38 | 62.000 | –0.78 | 63.000 |
| Dish DBS | ... | 5.875 | 8.89 | Nov. 15, '24 | 94.750 | –0.75 | 94.250 |
| QVC | QVCN | 4.850 | 8.22 | April 1, '24 | 95.875 | –0.37 | 95.327 |
| Intelsat Jackson Holdings | INTEL | 6.500 | 8.07 | March 15, '30 | 91.500 | –0.28 | 93.194 |

*Estimated spread over 2-year, 3-year, 5-year, 10-year or 30-year hot-run Treasury; 100 basis points=one percentage pt.; change in spread shown is for Z-spread.
Note: Data are for the most active issue of bonds with maturities of two years or more

Source: MarketAxess

# Europe's Stocks Draw Investors

## Signs of inflation easing and energy hopes lift market sentiment in eurozone

By Anna Hirtenstein

Investors are turning somewhat more positive on Europe, spurring a recovery in the region's beaten-down stocks.

As of Wednesday's close, the benchmark Euro Stoxx 50 index had gained 18% this quarter, putting it on track for the best quarterly performance since 2009. The rise for the index, which includes eurozone blue chips like **L'Oréal** SA and **LVMH Moët Hennessy Louis Vuitton** SE, compares with a 9.9% gain for the S&P 500.

The mood has brightened after a period of extreme pessimism about Europe, brought on by the invasion of Ukraine, a subsequent jump in energy prices and the highest inflation in decades. Russia was the biggest energy supplier to the European Union, rendering the region vulnerable to shocks from Western sanctions.

Market sentiment is being lifted by early signs of inflation easing in the eurozone and hopes that the scramble for alternatives to Russian natural gas has reduced the risk of an energy crisis this winter, investors and analysts said.

Meanwhile, benchmark U.S. yields and the dollar have declined in recent weeks, helping lift riskier assets worldwide, as investors anticipate a slowdown in the Federal Reserve's campaign to raise interest rates.

"We're in a recovery trade. There's still going to be a recession. But what we're seeing is signs that the recession won't be as bad and that inflation might calm down more quickly than people thought," said Jordan Rochester, a currency strategist at Nomura.

Foreign investors have snapped up European assets. In a marker of that international appetite, flows into exchange-traded funds holding eurozone-based stocks, but which are denominated in other currencies, rose to the highest monthly level since early 2021 last month, Nomura analysis showed.

The annual eurozone inflation rate declined in November for the first time since mid-2021, falling to 10%, from 10.6% in October. A pullback in oil and other energy prices helped. Natural-gas prices have stabilized as Europe's gas storage has risen above 95% due to imports of liquefied-natural gas, reducing the risk of an energy crunch.

Investors now expect the European Central Bank's key policy rate to reach 2.8% next summer, market prices suggest, down from forecasts of more than 3% a month ago.

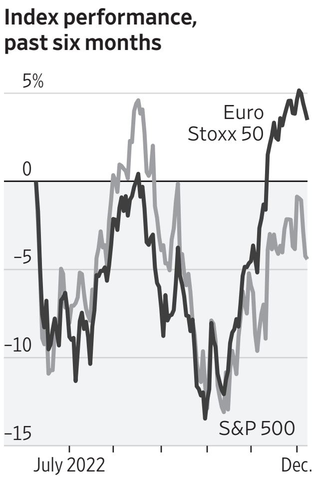
As in the U.S., where consumer-price inflation has also eased, investors are hoping central bankers won't have to tighten financial conditions so aggressively that they trigger a deep recession. In turn, expectations of a milder downturn and cheaper capital available to companies are boosting European stock and bond markets.

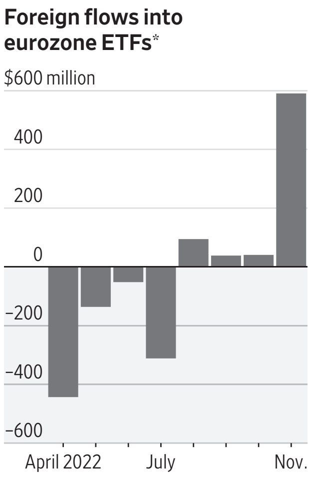
"The Fed and the ECB are winning the war against inflation, and at some point, we're going to see a pause from the central banks. This is something that will drive the market higher," said Roland Kaloyan, head of European equity strategy at Société Générale.

Some of the best-performing stocks in Europe this quarter are in the industrial sector. These companies were among the hardest-hit by the disruptions to gas supplies and jump in energy prices, with many companies temporarily shutting factories or reducing production.

WOLFGANG RATTAY/REUTERS

Siemens Energy was among the energy shares that saw gains.




*Shows flows into exchange-traded funds that contain eurozone stocks but are denominated in other currencies.
Sources: FactSet (performance); Nomura (flows)

Shares in France's **Alstom** SA are up 42% this quarter, while those in **Siemens Energy** AG of Germany have risen 44%.

Some analysts expect other energy-intensive sectors to benefit from cheaper energy and the recent loosening of Covid-19 restrictions in China, one of the EU's biggest trading partners.

"One of the sectors in which I see a lot of upside potential in Europe is the automobile sector," Mr. Kaloyan said.

He expects supply-chain conditions to keep improving. Europe's major car makers include **Volkswagen** AG and **Stellantis** NV.

Conditions in the credit markets have improved, with a decline in spreads, or the extra yields compared with a benchmark that investors demand to hold riskier bonds.

The spread on an ICE BofA index of bonds in euros issued by industrial companies narrowed to 1.6 percentage points above a benchmark. That is down from 2.1 points at the end of September, but above the average 1.1 percentage point over the past 10 years.

Some remain cautious about the region's prospects, for example if the Russia-Ukraine war drives more volatility in energy prices and inflation.

"The rally that we have seen was followed by the optimistic view that the energy crunch might not be as bad as we feared," said Antonio Cavarero, head of investments at Generali Insurance Asset Management. "But Europe is still very much exposed."

# SEC Plans To Float Proposals To Revamp Market

By Paul Kiernan

WASHINGTON—The Securities and Exchange Commission signaled plans to issue four proposals next week that aim to help small investors get better prices on their stock trades.

The SEC said Wednesday its five-member commission will consider proposing the rules in an open meeting Dec. 14. If a majority of the panel, which includes Chair Gary Gensler and two other Democrats, support the proposals, they will be opened to public comment before the SEC decides whether to finalize them.

The proposals are a key element of Mr. Gensler's policy agenda. He has repeatedly said U.S. equity markets can be improved for ordinary investors who often pay no commissions for trading but face other, more-opaque, costs. In a June speech he outlined a series of potential regulatory changes that SEC staff were drafting.

Most small investors, when they place an order with their broker to buy or sell shares, pay little heed to what happens next. Sometimes the broker sends the order to a public exchange like the New York Stock Exchange, which matches it with a counterparty. But in many cases, brokers sell their customers' orders to high-speed trading firms such as Citadel Securities or Virtu Financial Inc., which profit from the small difference between the buying and selling price of the stock.

Mr. Gensler says the practice, known as payment for order flow, represents a conflict of interest for brokers, which are required to act in the best interest of their customers. He left open the possibility of banning it in a 2021 interview that dinged the stock price of Robinhood Markets Inc., one of the many brokers that rely on the practice to offer zero-commission trading. Virtu and Citadel Securities, as well as brokers that accept payment for order flow, say the stock market's current rules work well for small investors. They have campaigned against major changes by the SEC.

Mr. Gensler has since backed away from a ban, saying more recently that he wants to increase transparency and competition in the business of executing stock trades.

The proposals on next week's agenda include an "order competition rule." That would require some trades by individual investors "to be exposed to competition in fair and open auctions before they could be executed internally by any trading center that restricts order-by-order competition," the SEC meeting notice said.

The Wall Street Journal detailed some of the contours of that idea, which seeks to ensure that small investors get better prices when buying or selling stocks, in October.

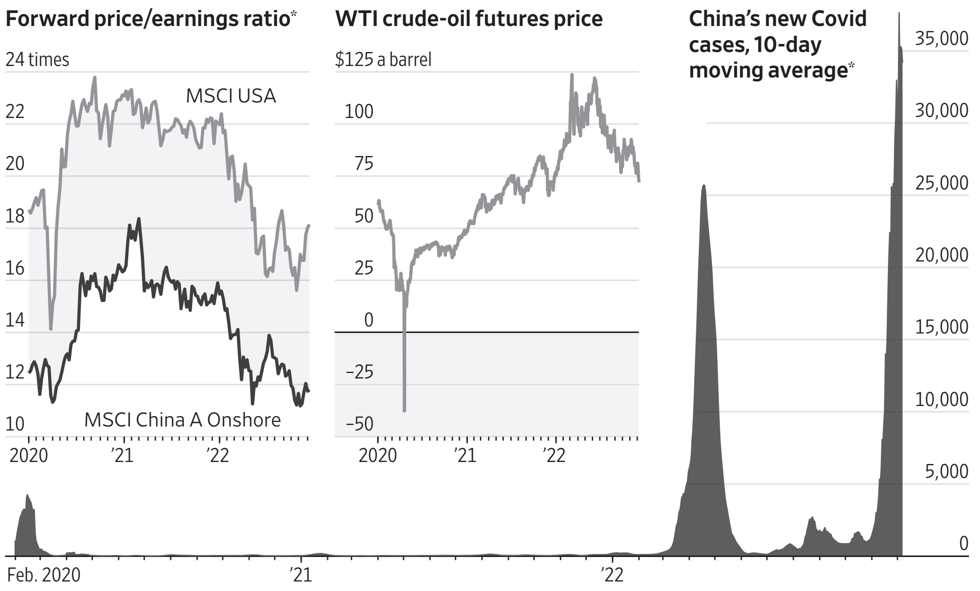
Additionally, the SEC plans to consider proposing a "best execution" regulation for broker-dealers. Such a rule would require brokers to take steps to ensure that they send investor orders to the trading venue that offers the best available price to their customers—meaning the highest price for a seller or the lowest price for a buyer.

STREETWISE | By James Mackintosh

# China Reopening Risks Repeat of World's Woes

Thursday marks two years since the Covid-19 vaccination drive began, yet both the U.S. and the world economy continue to be dominated by issues created by the pandemic. The uncertainty is about to get worse, as China starts the joy, pain and eventual catharsis of reopening.

Markets have been betting on the short-term benefits of reopening since rumors of the policy change began. The renminbi has enjoyed its best five-week gain against the dollar since internationalization in 1994 and domestic stocks jumped about 10%.




*As of Tuesday
Sources: Refinitiv IBES (P/E ratio); FactSet (WTI); Our World in Data (Covid cases)

The danger is a repeat of the economic, financial and political swings that created a boom-bust cycle in the rest of the world. Stocks are back below where they stood when Margaret Keenan, a pensioner in Coventry, England, became the first to be officially vaccinated.

There are three reasons to think China's economy may be less vulnerable to the troubles that hit the rest of the world. But that doesn't make the country's stocks the obvious bargain many think. Nor does it mean that China's reopening won't be disruptive to the rest of the world.

First, China hasn't had the government stimulus that supported the post-lockdown rebounds in the U.S. and Europe and underpinned red-hot job markets and inflation. Its initial support package was small by comparison, at 5% of GDP against 26% in the U.S. by September 2021, according to the International Monetary Fund. Since then the government has steered clear of major stimulus.

Because households don't have stimulus checks burning holes in their pockets, the rebound is likely to be less strong. This should make it easier for airlines, hotels and restaurants to meet higher demand. There has also been less of a boom in stuff bought by those working from home, meaning less need to rotate production capacity back out of exercise bikes and laptops than was seen in developed countries.

On top of that, the recovery in demand is unlikely to be sudden, as China is reopening more cautiously than elsewhere—not least because few people have immunity to the virus. As Covid spreads and hospitals fill up, consumers may stay cautious even if governments don't reimpose lockdowns.

Second, and relatedly, China has plenty of spare capacity in the economy to expand services that do see a spike in demand, thanks to high youth unemployment and damage to small businesses. Global pressures will probably be less severe, too, as China's reopening comes as growth in the rest of the world is slowing, which is likely to ease pressure on oil prices and other essential imports.

Third, there is unlikely to be a repeat of the U.S. experience of opting out of the workforce that worsened the shortage of people available to fill jobs.

"Because there's been no checks in the mail and people have had to suffer in terms of their income it's not easy for people to decide that they don't want to come back to the labor force," says Tao Wang, chief China economist at UBS.

Many investors have focused on China being unloved, which is usually a good sign. MSCI's measure of domestic stocks trades at 12 times forecast 12-month earnings, against 18 times for the U.S., even after the recent gains.

Foreign interest in Chinese shares bought through the Hong Kong Stock Connect program dropped sharply from August up to October, too.

Against that, the sheer scale of the unexpected swings in goods, services and asset prices experienced in the U.S. should make us wary of predictions for China's recovery.

Whether it was the slide in oil prices from briefly negative to above $120 a barrel, the quintupling and fall in shipping rates and lumber futures, or the bubble-that-popped in lossmaking technology stocks, these swings all came as a surprise.

Worse, China may deserve its discount to the U.S., much of which is caused not by concern about Covid policy but by fears about geopolitics, the lack of rule of law and the structural problem of its imploding housing developers.

While China's valuations have fallen a lot, they are almost exactly in line with where they stood before the pandemic, as is the discount to the U.S.

On the face of it, the opening up of the world's second-biggest economy is good for stocks everywhere, pushing up demand and removing restrictions on supply.

But adding to global demand—especially in oil—makes it even harder for central banks elsewhere trying to cool their economies. China's reopening may be less messy than the West's, but has plenty of potential to disrupt.

## Mutual Funds

Data provided by LIPPER

Top 250 mutual-funds listings for Nasdaq-published share classes by net assets.

**e**-Ex-distribution. **f**-Previous day's quotation. **g**-Footnotes x and s apply. **j**-Footnotes e and s apply. **k**-Recalculated by Lipper, using updated data. **p**-Distribution costs apply, 12b-1. **r**-Redemption charge may apply. **s**-Stock split or dividend. **t**-Footnotes p and r apply. **v**-Footnotes x and e apply. **x**-Ex-dividend. **z**-Footnote x, e and s apply. **NA**-Not available due to incomplete price, performance or cost data. **NE**-Not released by Lipper; data under review. **NN**-Fund not tracked. **NS**-Fund didn't exist at start of period.

Wednesday, December 7, 2022

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| **American Century Inv** | | | |
| Ultra | 62.49 | -1.28 | -28.7 |
| **American Funds Cl A** | | | |
| AmcpA | 30.72 | -0.44 | -27.3 |
| AMutlA | 50.73 | -0.43 | -3.3 |
| BalA | 29.30 | -0.19 | -11.0 |
| BondA | 11.57 | +0.04 | -11.4 |
| CapIBA | 64.16 | -0.32 | -6.7 |
| CapWGrA | 52.54 | -0.46 | -16.3 |
| EupacA | 50.44 | -0.41 | -21.7 |
| FdInvA | 62.40 | -0.75 | -15.5 |
| GwthA | 53.11 | -0.84 | -28.5 |
| HI TrA | 9.16 | -0.03 | -8.6 |
| ICAA | 43.08 | -0.52 | -14.8 |
| IncoA | 23.79 | -0.14 | -6.0 |
| IntBdA | 12.49 | +0.01 | -7.3 |
| N PerA | 50.60 | -0.59 | -23.8 |
| NEcoA | 44.22 | -0.52 | -28.5 |
| NwWrldA | 67.87 | -0.52 | -21.1 |
| SmCpA | 57.14 | -0.81 | -28.6 |
| TxExA | 12.14 | ... | -8.6 |
| WshA | 53.68 | -0.53 | -7.5 |
| **Artisan Funds** | | | |
| IntlVal Inst | 38.52 | -0.22 | -7.0 |
| **Baird Funds** | | | |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| AggBdInst | 9.76 | +0.04 | -12.2 |
| CorBdInst | 10.02 | +0.04 | -11.9 |
| **BlackRock Funds** | | | |
| HiYldBd Inst | 6.74 | -0.01 | -9.5 |
| **BlackRock Funds A** | | | |
| GlblAlloc | 16.69 | -0.09 | -14.9 |
| **BlackRock Funds III** | | | |
| iShS&P500IdxK | 463.63 | -6.77 | -16.1 |
| **BlackRock Funds Inst** | | | |
| EqtyDivd | 18.48 | -0.15 | -2.9 |
| StratIncOpptyIns | 9.34 | ... | -5.4 |
| **Bridge Builder Trust** | | | |
| CoreBond | 8.96 | +0.03 | -11.8 |
| CorePlusBond | 8.89 | +0.03 | -12.0 |
| Intl Eq | 11.09 | -0.05 | -17.1 |
| LargeCapGrowth | 17.69 | -0.26 | -24.8 |
| LargeCapValue | 16.31 | -0.18 | -4.3 |
| MunicipalBond | 9.76 | ... | -7.3 |
| **Calamos Funds** | | | |
| MktNeutI | 13.83 | -0.05 | -4.5 |
| **Columbia Class I** | | | |
| DivIncom I | 29.75 | -0.29 | -4.6 |
| **Dimensional Fds** | | | |
| 5GlbFxdInc | 9.98 | +0.01 | -6.4 |
| EmgMktVa | 27.04 | -0.15 | -9.9 |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| EmMktCorEq | 20.54 | -0.14 | -15.4 |
| IntlCoreEq | 13.55 | -0.07 | -13.6 |
| IntSmCo | 17.55 | -0.17 | -18.3 |
| IntSmVa | 18.51 | -0.15 | -12.1 |
| LgCo | 28.11 | -0.41 | -16.1 |
| US CoreEq1 | 31.32 | -0.41 | -13.1 |
| US CoreEq2 | 28.63 | -0.37 | -12.3 |
| US Small | 41.40 | -0.41 | -11.3 |
| US SmCpVal | 42.58 | -0.25 | -1.2 |
| US TgdVal | 29.20 | -0.17 | -2.3 |
| USLgVa | 43.08 | -0.51 | -4.9 |
| **Dodge & Cox** | | | |
| Balanced | 100.30 | -0.44 | -6.3 |
| GblStock | 13.74 | -0.09 | -4.8 |
| Income | 12.43 | +0.03 | -9.9 |
| Intl Stk | 44.41 | +0.11 | -6.1 |
| Stock | 227.48 | -2.57 | -5.7 |
| **DoubleLine Funds** | | | |
| TotRetBdI | 8.94 | +0.04 | -11.2 |
| **Edgewood Growth Instituti** | | | |
| EdgewoodGrInst | 36.69 | -0.64 | -39.3 |
| **Fidelity** | | | |
| 500IdxInstPrem | 137.15 | -2.00 | -16.0 |
| Contrafund K6 | 17.29 | -0.29 | -25.6 |
| ExtMktIdxInstPre | 65.45 | -1.06 | -24.6 |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| FidSerToMarket | 13.12 | -0.20 | -17.5 |
| GrowthCompanyK6 | 16.13 | -0.34 | -29.5 |
| InflPrBdIndInsPr | 10.02 | ... | -10.2 |
| IntlIdxInstPrem | 42.55 | -0.17 | -13.7 |
| LgCpGwId InstPre | 21.85 | -0.39 | -26.2 |
| MidCpInxInstPrem | 26.81 | -0.34 | -15.5 |
| SAIUSLgCpIndxFd | 17.83 | -0.26 | -16.1 |
| SeriesBondFd | 9.03 | +0.04 | -11.6 |
| SeriesOverseas | 11.26 | -0.07 | -21.8 |
| SerLTTreBdIdx | 6.24 | +0.07 | -25.0 |
| SmCpIdxInstPrem | 22.57 | -0.35 | -18.1 |
| TMktIdxInstPrem | 110.24 | -1.63 | -17.5 |
| TotalMarketIndex | 13.90 | -0.21 | -17.2 |
| USBdIdxInstPrem | 10.36 | +0.04 | -11.7 |
| **Fidelity Freedom** | | | |
| FF2020 | 13.49 | -0.04 | -14.4 |
| FF2025 | 12.39 | -0.05 | -14.9 |
| FF2030 | 15.49 | -0.06 | -15.2 |
| FF2035 | 13.32 | -0.08 | -16.0 |
| FF2040 | 9.42 | -0.08 | -16.6 |
| Freedom2030 K | 15.48 | -0.07 | -15.1 |
| Idx2030InsPre | 17.54 | -0.08 | -15.0 |
| Idx2040InsPre | 19.74 | -0.17 | -16.5 |
| **Fidelity Invest** | | | |
| Balanc | 23.54 | -0.21 | -16.4 |
| BluCh | 118.68 | -2.83 | -35.1 |
| Contra | 13.57 | -0.24 | -26.7 |
| ContraK | 13.62 | -0.24 | -26.7 |
| CpInc | 9.20 | -0.03 | -9.3 |
| GroCo | 25.38 | -0.54 | -30.4 |
| InvGrBd | 10.04 | +0.04 | -11.2 |
| LowP | 47.22 | -0.30 | -5.7 |
| Magin | 11.17 | -0.16 | -24.4 |
| NASDAQ | 139.97 | -2.86 | -28.9 |
| OTC | 13.45 | -0.28 | -28.8 |
| Puritn | 20.96 | -0.18 | -15.7 |
| SAIUSQtyIdx | 15.81 | -0.25 | -15.9 |
| SrsEmrgMkt | 16.21 | -0.01 | -22.9 |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| SrsGlobal | 12.81 | -0.05 | -14.9 |
| SrsGroCoRetail | 14.47 | -0.30 | -29.1 |
| SrsIntlGrw | 15.18 | -0.11 | -20.6 |
| SrsIntlVal | 10.33 | -0.02 | -7.5 |
| TotalBond | 9.53 | +0.03 | -11.4 |
| **Fidelity SAI** | | | |
| TotalBd | 9.02 | +0.03 | -11.2 |
| U.S.TreBdIdx | 8.81 | +0.03 | -11.2 |
| **First Eagle Funds** | | | |
| GlbA | 57.64 | -0.33 | -7.0 |
| **FPA Funds** | | | |
| NwInc | 9.48 | +0.01 | -3.2 |
| **Franklin A1** | | | |
| IncomeA1 | 2.29 | ... | -4.2 |
| **FrankTemp/Frank Adv** | | | |
| IncomeAdv | 2.26 | -0.01 | -4.5 |
| **FrankTemp/Franklin A** | | | |
| Growth A | 115.52 | -1.79 | -23.2 |
| RisDv A | 87.02 | -1.06 | -9.6 |
| **Guggenheim Funds Tru** | | | |
| TotRtnBdFdClInst | 23.70 | +0.09 | -14.0 |
| **Harbor Funds** | | | |
| CapApInst | 65.76 | -1.15 | -34.7 |
| **Harding Loevner** | | | |
| IntlEq | 24.35 | -0.26 | -19.0 |
| **Invesco Funds A** | | | |
| EqIncA | 10.48 | -0.08 | -6.6 |
| **Invesco Funds Y** | | | |
| DevMktY | 36.05 | -0.08 | -23.3 |
| **JHF III DispVal** | | | |
| DispValMCI | 26.07 | -0.22 | -5.8 |
| **John Hancock** | | | |
| BondR6 | 13.59 | +0.04 | -13.0 |
| **JPMorgan I Class** | | | |
| CoreBond | 10.28 | +0.05 | -10.9 |
| EqInc | 23.19 | -0.28 | -1.1 |
| LgCpGwth | 47.78 | -0.72 | -22.8 |
| **JPMorgan R Class** | | | |
| CoreBond | 10.29 | +0.04 | -10.9 |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| CorePlusBd | 7.26 | +0.02 | -11.3 |
| **Lord Abbett A** | | | |
| ShtDurIncmA p | 3.84 | ... | -5.0 |
| **Lord Abbett I** | | | |
| ShtDurInc p | 3.84 | +0.01 | -4.6 |
| **Metropolitan West** | | | |
| TotRetBdI | 9.21 | +0.03 | -13.5 |
| TRBdPlan | 8.63 | +0.03 | -13.5 |
| **MFS Funds** | | | |
| IIE | 28.88 | -0.16 | -13.7 |
| **MFS Funds Class I** | | | |
| GrowthI | 137.91 | -2.25 | -29.1 |
| ValueI | 51.14 | -0.46 | -5.1 |
| **Northern Funds** | | | |
| StkIdx | 43.31 | -0.63 | -16.1 |
| **Old Westbury Fds** | | | |
| LrgCpStr | 14.93 | -0.18 | -20.8 |
| **Parnassus Fds** | | | |
| ParnEqFd | 48.16 | -0.56 | -16.6 |
| **PGIM Funds Cl Z** | | | |
| HighYield | 4.64 | -0.01 | -10.6 |
| TotalReturnBond | 12.05 | +0.03 | -13.9 |
| **PIMCO Fds Instl** | | | |
| AllAsset | 11.10 | -0.03 | NA |
| TotRt | 8.69 | +0.03 | -13.2 |
| **PIMCO Funds A** | | | |
| IncomeFd | 10.53 | ... | -7.9 |
| **PIMCO Funds I2** | | | |
| Income | 10.53 | ... | -7.6 |
| **PIMCO Funds Instl** | | | |
| IncomeFd | 10.53 | ... | -7.5 |
| **Price Funds** | | | |
| BlChip | 113.89 | -2.15 | -36.0 |
| DivGro | 67.09 | -0.63 | -8.7 |
| Growth | 66.90 | -1.32 | -37.1 |
| HelSci | 92.42 | -1.12 | -11.2 |
| LgCapGow I | 49.62 | -0.94 | -32.5 |
| MidCap | 92.97 | -1.19 | -20.8 |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| NHoriz | 49.02 | -1.11 | -36.2 |
| R2020 | 19.26 | -0.09 | -13.3 |
| R2025 | 16.74 | -0.09 | -14.2 |
| R2030 | 24.92 | -0.16 | -15.5 |
| R2040 | 27.09 | -0.24 | -17.3 |
| **Putnam Funds Class A** | | | |
| PutLargCap p | 30.23 | -0.41 | -2.1 |
| **Schwab Funds** | | | |
| 1000 Inv r | 85.49 | -1.26 | -17.4 |
| S&P Sel | 61.23 | -0.89 | -16.1 |
| TSM Sel r | 67.89 | -1.00 | -17.5 |
| **TIAA/CREF Funds** | | | |
| EqIdxInst | 28.33 | -0.42 | -17.1 |
| **VANGUARD ADMIRAL** | | | |
| 500Adml | 364.82 | -5.32 | -16.1 |
| BalAdml | 40.90 | -0.29 | -15.1 |
| CAITAdml | 11.19 | +0.01 | -6.3 |
| CapOpAdml r | 164.75 | -1.87 | -14.9 |
| DivAppIdxAdm | 41.97 | -0.39 | -8.7 |
| EMAdmr | 33.41 | -0.07 | -16.6 |
| EqIncAdml | 91.01 | -0.95 | 0.8 |
| ExplrAdml | 93.06 | -1.53 | -21.8 |
| ExtndAdml | 103.88 | -1.69 | -24.6 |
| GNMAAdml | 9.29 | +0.01 | -10.0 |
| GrwthAdml | 115.15 | -2.44 | -30.0 |
| HlthCareAdml r | 91.89 | -0.92 | -0.6 |
| HYCorAdml r | 5.21 | -0.02 | -8.3 |
| InfProAd | 24.26 | ... | -10.0 |
| IntlGrAdml | 99.60 | -0.85 | -28.5 |
| ITBondAdml | 10.26 | +0.04 | -11.9 |
| ITIGradeAdml | 8.47 | +0.04 | -12.4 |
| LarCapAd | 90.68 | -1.35 | -17.6 |
| LTGradeAdml | 8.21 | +0.08 | -21.9 |
| MidCpAdml | 259.24 | -3.23 | -17.0 |
| MuHYAdml | 10.38 | ... | -10.8 |
| MuIntAdml | 13.44 | +0.01 | -6.5 |
| MuLTAdml | 10.67 | ... | -9.6 |
| MuLtdAdml | 10.70 | +0.01 | -2.8 |
| MuShtAdml | 15.59 | ... | -0.8 |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| PrmcpAdml r | 148.68 | -1.55 | -12.3 |
| RealEstatAdml | 120.82 | -1.05 | -24.8 |
| SmCapAdml | 90.42 | -1.27 | -15.7 |
| SmGthAdml | 72.34 | -1.59 | -26.7 |
| STBondAdml | 9.90 | +0.02 | -5.4 |
| STIGradeAdml | 9.97 | +0.01 | -5.7 |
| STIPSIxAdm | 24.04 | -0.02 | -2.6 |
| TotBdAdml | 9.65 | +0.04 | -11.8 |
| TotIntBdIdxAdm | 19.75 | +0.08 | -9.6 |
| TotIntlAdmIdx r | 28.41 | -0.15 | -15.4 |
| TotStAdml | 95.92 | -1.42 | -17.5 |
| TxMCapAdml | 203.73 | -2.98 | -17.0 |
| TxMIn r | 13.75 | -0.08 | -14.9 |
| USGroAdml | 106.08 | -2.11 | -37.0 |
| ValAdml | 55.50 | -0.50 | -1.5 |
| WdsrllAdml | 71.60 | -0.89 | -11.8 |
| WellsIAdml | 63.34 | -0.06 | -7.7 |
| WelltnAdml | 71.97 | -0.41 | -12.8 |
| WndsrAdml | 79.31 | -0.89 | -2.0 |
| **VANGUARD FDS** | | | |
| DivdGro | 36.35 | -0.34 | -4.4 |
| IntlVal | 36.97 | -0.13 | -11.1 |
| LifeCon | 19.76 | -0.04 | -13.2 |
| LifeGro | 37.20 | -0.30 | -15.5 |
| LifeMod | 28.48 | -0.15 | -14.4 |
| PrmcpCor | 30.41 | -0.29 | -9.6 |
| STAR | 26.59 | -0.15 | -16.2 |
| TgtRe2020 | 27.11 | -0.09 | -12.6 |
| TgtRe2025 | 17.50 | -0.08 | -14.0 |
| TgtRe2030 | 32.79 | -0.19 | -14.7 |
| TgtRe2035 | 20.26 | -0.14 | -15.0 |
| TgtRe2040 | 35.54 | -0.28 | -15.4 |
| TgtRe2045 | 23.88 | -0.21 | -15.9 |
| TgtRe2050 | 39.42 | -0.37 | -15.9 |
| TgtRe2060 | 40.38 | -0.38 | -15.9 |
| TgtRet2055 | 43.89 | -0.41 | -16.0 |
| TgtRetInc | 12.67 | -0.02 | -11.2 |
| WellsI | 26.14 | -0.03 | -7.8 |

| Fund | NAV | Net Chg | YTD %Ret |
|---|---|---|---|
| Welltn | 41.67 | -0.24 | -12.9 |
| WndsrII | 40.35 | -0.50 | -11.9 |
| **VANGUARD INDEX FDS** | | | |
| ExtndIstPl | 256.34 | -4.17 | -24.6 |
| IdxIntl | 16.98 | -0.09 | -15.5 |
| MdCpGrAdml | 79.40 | -1.54 | -27.1 |
| MdCpVlAdml | 71.99 | -0.45 | -6.2 |
| SmValAdml | 70.23 | -0.61 | -7.3 |
| TotBd2 | 9.53 | +0.03 | -11.9 |
| TotIntlInstIdx r | 113.61 | -0.59 | -15.4 |
| TotItlInstPlId r | 113.64 | -0.59 | -15.3 |
| TotSt | 95.89 | -1.42 | -17.6 |
| **VANGUARD INSTL FDS** | | | |
| BalInst | 40.90 | -0.30 | -15.1 |
| DevMktsIndInst | 13.76 | -0.09 | -14.9 |
| DevMktsInxInst | 21.51 | -0.14 | -14.9 |
| ExtndInst | 103.87 | -1.69 | -24.6 |
| GrwthInst | 115.15 | -2.44 | -30.0 |
| InPrSeIn | 9.88 | ... | -10.0 |
| InstIdx | 334.79 | -4.88 | -16.1 |
| InstPlus | 334.80 | -4.87 | -16.1 |
| InstTStPlus | 69.80 | -1.03 | -17.4 |
| MidCpInst | 57.27 | -0.71 | -17.0 |
| MidCpIstPl | 282.44 | -3.52 | -17.0 |
| RealEstaInstl | 18.70 | -0.16 | -24.7 |
| SmCapInst | 90.42 | -1.27 | -15.7 |
| SmCapIstPl | 260.98 | -3.67 | -15.7 |
| STIGradeInst | 9.97 | +0.01 | -5.7 |
| STIPSIxins | 24.06 | -0.02 | -2.6 |
| TotBdInst | 9.65 | +0.04 | -11.8 |
| TotBdInst2 | 9.53 | +0.03 | -11.8 |
| TotBdInstPl | 9.65 | +0.04 | -11.8 |
| TotIntBdIdxInst | 29.64 | +0.12 | -9.6 |
| TotStInst | 95.94 | -1.42 | -17.5 |
| ValueInst | 55.50 | -0.50 | -1.5 |
| **WCM Focus Funds** | | | |
| WCMFocIntlGrwIns | 20.32 | -0.20 | -26.6 |
| **Western Asset** | | | |
| CorePlusBdI | 9.60 | +0.02 | -17.0 |

# S&P Extends Losing Streak to 5 Days

Next week's Fed decision and inflation figures could provide more clarity on rates

By Caitlin Ostroff And Hardika Singh

Stocks inched mostly down, with investors continuing to worry that stronger-than-expected economic data will prompt officials to hold interest rates higher for longer, potentially weighing on the economy next year.

**WEDNESDAY'S MARKETS**

The S&P 500 fell 7.34 points, or 0.2%, to 3933.92, suffering its fifth consecutive day of losses. The tech-focused Nasdaq Composite fell 56.34 points, or 0.5%, to 10958.55. The Dow Jones Industrial Average added 1.58 points, or less than 0.1%, to 33597.92.

Stronger-than-anticipated U.S. economic data on Friday and Monday boosted fears that the Federal Reserve will keep interest rates elevated to ensure that inflation ebbs. Investors had hoped that central bankers might slow the pace of interest-rate increases after inflation data showed tentative signs of easing in recent months.

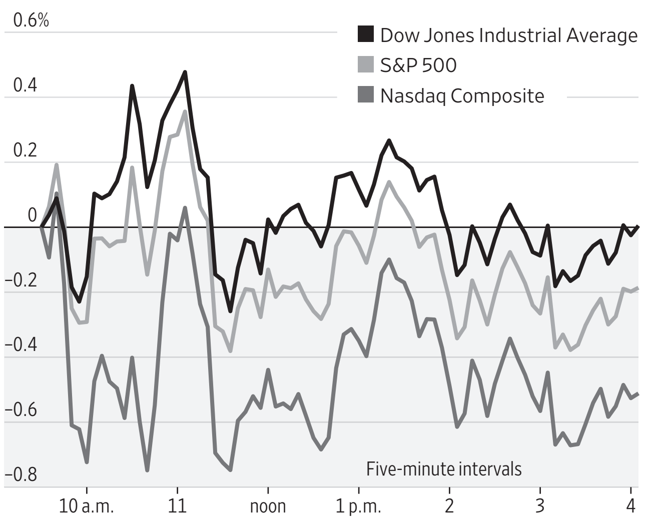
Some investors think the market's recent bounce, on expectations of slowing rate increases, is overdone.

"I'm betting on a recession in the second half of next year and that the Fed still can't cut rates because inflation is still well above the 2% number at the end of next year," said Ron Temple, chief market strategist at Lazard.

Lack of clarity in how central bankers may respond to economic data has led to choppier performance in the stock market, said Edward Park, chief investment officer at U.K. investment firm Brooks Macdonald.

Next week, which will feature a Fed meeting and fresh inflation figures, could provide a clearer picture on the path for interest rates.

**Index performance Wednesday**




Source: FactSet

"Risk markets are highly dependent and seesawing with each new data print and central bank comment," said Stuart Katz, chief investment officer of Robertson Stephens.

In bond markets, the yield on the benchmark 10-year Treasury note ticked down to 3.407% from 3.512% Tuesday. Yields and prices move inversely. The yield on the benchmark two-year Treasury note stood at 4.256% Wednesday.

That scenario, where short-term yields exceed long-term yields, is known on Wall Street as an inverted yield curve and is often seen as a red flag that a recession is looming. Investors and policy makers have worried that the Fed may tighten too much, hurting the economy.

Investors are also closely watching consumer strength as a sign of where the economy stands. The full effect of the Fed's interest rate-increases may take a while to filter through the economy.

**Campbell Soup** rose $3.19, or 6%, to $56.18 after the company boosted its outlook and said fiscal first-quarter sales rose.

**Carvana** fell $2.88, or 43%, to $3.83. The Wall Street Journal reported that the used-car dealer hired Moelis & Co. as a financial adviser, tapping an investment bank known for helping companies facing financial headwinds. Analysts at Wedbush Securities downgraded the stock to "underperform" and argued that the risk of bankruptcy is rising.

**State Street** jumped $6.09, or 8.2%, to $80.45 after the financial-services company boosted its buyback plan.

Overseas, the pan-continental Stoxx Europe 600 declined 0.6%. In Asia, shares in Hong Kong and mainland China fell Wednesday after China dropped many of its Covid-19 quarantine and testing requirements. Early Thursday, the Hang Seng was up 2% and the mainland's CSI 300 was flat. Japan's Nikkei 225 was down 0.7%. S&P 500 futures fell 0.2%.

## AUCTION RESULTS

Here are the results of Wednesday's Treasury auction. All bids are awarded at a single price at the market-clearing yield. Rates are determined by the difference between that price and the face value.

**17-WEEK BILLS**

| | |
|---|---|
| Applications | $89,027,800,100 |
| Accepted bids | $34,082,997,100 |
| " noncompetitively | $306,353,900 |
| " foreign noncompetitively | $0 |
| Auction price (rate) | 98.545556 |
| | (4.400%) |
| Coupon equivalent | 4.527% |
| Bids at clearing yield accepted | 98.42% |
| Cusip number | 912796CT4 |

The bills, dated Dec. 13, 2022, mature on April 11, 2023.

# Public Crypto Firms Flash Accounting Red Flags

By Ben Foldy And Jean Eaglesham

Investors bemoan the lack of disclosure in the crypto industry. But many crypto companies disclose a lot of information, and some of it is worrisome, a review of financial statements shows.

The blowups of **FTX** and **Celsius Network** LLC exposed hidden risks that might have raised red flags for investors, including related-party transactions, commingled customer funds, sketchy record-keeping and questionable accounting. Some of these problems often appear in disclosures by public crypto companies, including weak systems used to keep numbers accurate.

A look at 19 of the publicly traded crypto miners showed that 16 disclosed significant internal-control weaknesses in the past four years, some of which were "alarming," according to Bedrock AI, which makes software that analyzes financial filings. Crypto miners build powerful networks of computers that process transactions and are rewarded in newly generated currency.

The bitcoin miner **Riot Blockchain** Inc. filed an annual report in March that identified four material weaknesses in internal controls. One of those weaknesses raised questions about how the company determines its revenue, one of the simplest and most important numbers in accounting.

On the day before Thanksgiving, the company filed its second amended version of the March report to say that auditors didn't assess internal controls on a third of the company's revenue and assets. They hadn't analyzed two of Riot's significant acquisitions from 2021, the company said.

A spokeswoman for Riot said the filing was amended because the notice that the subsidiaries had been excluded from the assessment was inadvertently left out of the company's disclosures.

"Crypto auditing and accounting is very much still a work in progress," said Sean Stein Smith, an accounting professor at Lehman College, City University of New York.

Another large bitcoin miner, **Marathon Digital Holdings** Inc., disclosed problems with internal controls tied to revenue and its assets. It added that it hadn't effectively designed a control to detect significant revenue misstatements.

The company said it would work to remedy the problem by adding staff in financial and information-technology roles.

Marathon has also invested in related parties. In September, the company invested $30 million in a private company called **Auradine** Inc., whose business isn't described in Marathon's filings. Marathon's chief executive officer, Fred Thiel, serves on Auradine's board, and another Marathon board member is a 10% shareholder of Auradine, according to Marathon's disclosures.

> **'Crypto auditing and accounting is very much still a work in progress.'**

A Marathon spokesman said Auradine is an early-stage company that is a strategic investment for Marathon.

Basic accounting and operational controls can take a back seat to growth at crypto companies, as the Celsius implosion indicated. The bankrupt lender failed to ensure that customer funds in certain deposit accounts were set aside from the rest of its crypto holdings, an independent examiner appointed in the company's chapter 11 case found.

"Due to time pressure and lack of engineering resources, Celsius chose [instead of controls] to rely on manual reconciliations and transfers of crypto assets...for the custody program," the examiner wrote in November.

Celsius didn't respond to a request for comment.

The lack of standardized accounting rules for cryptocurrencies can mean that even audited financial statements might fail to convey the true state of a company's finances. Crypto doesn't fit neatly into the definitions used to categorize assets. It lacks the government or commodity backing needed to be treated as cash, it is too volatile to be a cash equivalent and it isn't necessarily a financial instrument or security either, said Vivian Fang, an accounting professor at the University of Minnesota.

Regulators and accounting rule makers are working to fill the void in crypto accounting standards. The Financial Accounting Standards Board, the U.S. standards setter, aims to issue proposed rules next year.

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# HEARD ON THE STREET

FINANCIAL ANALYSIS & COMMENTARY

## There Is No Free Money in Bitcoin

Be wary about the discounted share price of Grayscale Bitcoin Trust to its underlying coin holdings

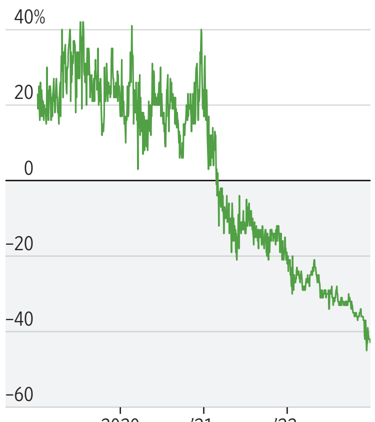
Who wouldn't want to buy a dollar for 60 cents? The same answer would hold if the currency in question were euros, yen or even bitcoin. But, in the case of one of the largest holders of the cryptocurrency, there is a catch.

**Grayscale Bitcoin Trust**, under the ticker GBTC, is a publicly traded entity with nearly $11 billion in assets under management, all in bitcoin. It is a way for anyone with a brokerage account to get exposure to the cryptocurrency without the complexity of direct ownership. GBTC held about 635,000 bitcoin as of the end of September, according to regulatory filings, or more than 3% of the circulating supply, according to CoinMarketCap figures.

In contrast to today's 40%-plus share-price discount to the dollar price of the trust's bitcoin per share, it long fetched a premium, due in part to its simplicity for individual investors. Sophisticated traders loved it, too, buying newly created shares and then later selling them at a premium—a kind of arbitrage. That helped the fund grow so large, but the shares slipped to a discount in early 2021. Unfortunately for current owners, the process doesn't currently work in reverse.

GBTC's sponsor is Grayscale Investments LLC, which is owned by **Digital Currency Group**. DCG has

**Premium or discount of price per share of Grayscale Bitcoin Trust to U.S. dollar value of bitcoin per share**




Source: Grayscale Investments

previously been authorized to buy shares of GBTC, which is one way to help narrow the discount. As of the end of September, DCG and its companies owned close to 10% of GBTC shares, according to filings. Under securities rules that apply to Grayscale products such as GBTC, affiliates are unable to sell more than 1% of shares outstanding every three months, according to Craig Salm, chief legal officer at Grayscale. In this case, DCG would be an affiliate.

Some GBTC shareholders might root for a dissolution of the trust and distribution of the underlying assets as a way to recoup the discount. But it is very hard to see that as a potential or likely outcome. GBTC is a lucrative business with captive customers, charging 2% of the assets a year of the fund as fees. At the current level, that means more than $200 million annually. Moreover, even if it were possible, making so many bitcoins available for sale at once could dent the cryptocurrency's price and any profit potential.

But Grayscale has pursued another path to closing the discount: conversion of GBTC into an exchange-traded fund. An ETF allows creation and redemption of shares seamlessly, so any gap would be arbitraged away. The SEC has rejected an application for ETF conversion so far. Grayscale is suing the regulator in the U.S. Court of Appeals for the District of Columbia Circuit.

Buying GBTC can partly be a bet on how that process goes, and on Washington's regulatory view in general. Maybe recent events will harden political opposition to legitimizing crypto by regulating it. But there might also be a shift to favor the view that regulating crypto is the best way to protect customers from things such as the debacle at FTX, and that vehicles such as ETFs are safer alternatives.

Some of the recent rise in the discount likely could reflect investors' general worries about crypto turmoil following the collapse of FTX. DCG is also the owner of cryptocurrency lending provider Genesis, which suspended customer withdrawals in November and has sought to raise money, The Wall Street Journal has reported.

Regardless of what happens with Grayscale and its corporate siblings and parent, though, it is important to note that the bitcoin trust is a separate legal entity. Grayscale said in mid-November that it is "prohibited from encumbering the digital assets underlying its products." GBTC is a Securities and Exchange Commission-reporting trust with an independent custody account with **Coinbase Global**. Coinbase has vouched for these coins, which it said are segregated in "cold storage."

So is there a bonanza to be had? Investors bullish on bitcoin can still bet on its long-term rise via GBTC. Bold traders who have no interest in betting on bitcoin's direction might see an opportunity to go short or bet on a price decline for bitcoin while owning GBTC in order to make a clear bet on a narrowing of the fund's discount. Yet that kind of two-step bet isn't something for the casual investor—nor is it cheap.

There is no easy money to be made in crypto. *—Telis Demos*

## Airbus's Warning Comes at a Risky Time

In a cyclical industry such as making planes, it helps to sell your products ahead of a downturn.

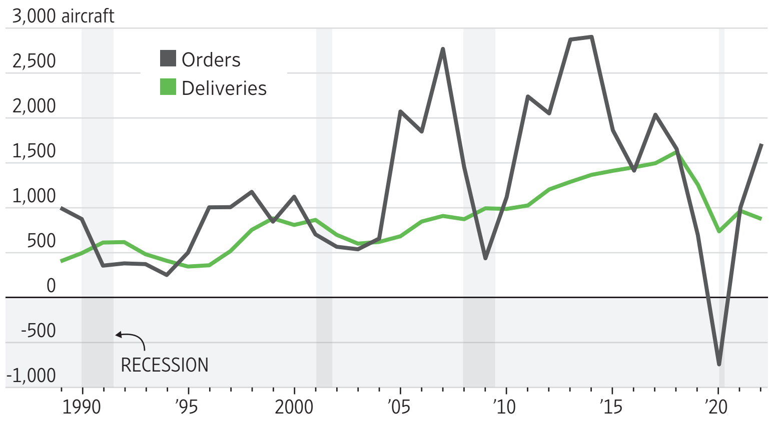
After European markets closed on Tuesday, Airbus said it considered its previous target of delivering around 700 commercial aircraft in 2022 to be "out of reach," though it believes the final figure won't fall "materially short" of what was promised.

More planes than expected have been stuck in an almost-finished state because of delays affecting a raft of small components. All year, shortages of raw materials and labor have saddled aerospace suppliers, particularly engine makers. More recently, another round of factory shutdowns in China, as well as bad weather stalling flight tests in Europe, have added to the woes.

Shares of **Airbus** fell almost 3% Wednesday. Those of its American rival **Boeing** had closed the previous day down 3.6%.

Many sell-side analysts already thought Airbus Chief Executive Guillaume Faury should have toned down his delivery aspirations when he reported third-quarter earnings at the end of October, and their suspicions were progressively con-

**Boeing and Airbus, combined commercial-plane orders and deliveries**




Source: the companies

firmed in recent weeks. Nevertheless, the median delivery forecast compiled by Visible Alpha was 698 before the announcement, suggesting some brokers hoped for a big end-of-year push.

Misses are rare in the aerospace industry. Markets are taking this one mostly as a sign that the broader industry's supply-chain snags are here to stay, which is why Boeing's stock has been affected as well. Airbus already cut its annual target from 720 back in July. On Tuesday, the company also guided expectations toward a slower increase in production of its bestselling A320 narrow-body jet.

Part of this is just the 2022 delay pushing back the timeline. But it may also indicate that supply-chain normalization, which Mr. Faury hoped would happen by the end of 2023, could take longer.

The news wasn't all bad: Airbus didn't change its financial guidance, suggesting its accountants were appropriately conservative in their planning. Also, its delivery problems are far smaller than Boeing's, which is more affected by geopolitical tensions with China and needs to get rid of a massive backlog accumulated over years of technical problems.

Still, both companies are ultimately experiencing the same paradox: Orders are surging as the post-pandemic travel market booms despite inflation and fears of a recession, but manufacturers are struggling to ship their products to airlines and lessors. Most economists expect a recession in the U.S. and Europe early next year, which historically hits not only orders but also deliveries. While many outright cancellations seem less likely this time around, there is always the risk that the downturn will be deeper than feared. Crucially, most cash is paid only when planes are delivered.

Airbus and Boeing do benefit from yearslong order backlogs. Missing the right delivery window to cash in, however, could be more than a short-term headwind.

*—Jon Sindreu*

## TSMC's U.S. Chip Gambit Has Powerful Backers

"American manufacturing is back," President Biden said Tuesday as he visited the new Arizona site of **Taiwan Semiconductor Manufacturing** Co. That sentiment may yet prove premature—but the Taiwanese chip maker's latest commitment to building on American soil is still something to celebrate.

One key takeaway from Tuesday's event: TSMC's major U.S. customers appear to be telegraphing their support for more advanced chips to be made on American soil. That raises the probability of a larger presence for firms like TSMC and **Samsung** in the future.

TSMC, the world's largest contract chip maker, said Tuesday it will build a second semiconductor factory in Arizona, bringing its total planned investment there to $40 billion. The first plant, announced in 2020 under a $12 billion investment plan, is expected to start mass production in 2024. The second factory will make chips with 3-nanometer technology, currently the fastest available. TSMC will upgrade the first plant, originally slated to make 5-nanometer chips, to make 4-nanometer ones. The aggregate 600,000 wafer-a-year capacity of both Arizona factories will add up to double TSMC's original planned capacity in the state.

The company's commitment to more than triple its new factory investment in the U.S. is a win for the Chips Act championed by Mr. Biden, which provides subsidies

CAITLIN O'HARA/BLOOMBERG NEWS

**TSMC's facility under construction in Arizona. The company plans to boost its investment in the state to $40 billion.**

for chip companies to build fabrication plants in the country.

But in terms of insulating the U.S. from its heavy dependence on Taiwan and South Korea for chips, there is a long way to go. While 3-nanometer chips are currently the most advanced, they will probably be a generation or two behind the fastest chips by the time the plant starts production in 2026. And the Arizona plants will account for only a single-digit percentage of TSMC's manufacturing capacity. Bernstein estimates the plants will account for about 3% of TSMC's global capacity in 2026; Morgan Stanley puts the figure at 8%.

Meanwhile, Bernstein expects the Arizona factories to contribute a high-single-digit percentage of TSMC's 2026 revenue. In comparison, Apple accounted for 26% of TSMC's sales last year, according to Bernstein. The $40 billion U.S. investment, spread over several years, is just a bit higher than TSMC's total 2022 capital expenditure, which it estimates at $36 billion.

Nonetheless one very encouraging sign is that TSMC's key customers are sending a strong signal of support for made-in-America chips. Chief executives from Apple, AMD and Nvidia all visited the TSMC facilities Tuesday. Those companies are big TSMC customers and will likely be significant buyers of chips from its Arizona plants. Escalating geopolitical tension between China and the U.S. means they have a strong interest in making sure some of the advanced chips they need are produced close to home—rather than exclusively across the Taiwan Strait from the People's Liberation Army.

Asia will remain the locus of global semiconductor manufacturing for many years. But the U.S. is starting to rebuild its capacity at the margins. For Uncle Sam and tech titans like Apple and Nvidia, that is likely to be a relief. *—Jacky Wong*

## Campbell's Turnaround Reaches Full Boil

Results vindicate investment in old brands

**Campbell Soup** has gone from one of the most troubled companies in the packaged-food sector to one of the strongest.

That may be partly luck, as both the pandemic and the current inflationary environment turned out to be favorable for its portfolio of soup, sauce and snack brands. But it is a vindication of the leadership of Chief Executive Mark Clouse, who chose to invest in some of the company's aging brands that prior leaders seemed nearly ready to give up on.

Campbell on Wednesday unveiled results for the quarter ended Oct. 30 that were strong across the board. Organic sales, which strip out merger and currency impacts, jumped 15% from a year earlier. That compared with analyst estimates of 9.6%, according to Visible Alpha, and was a sharp acceleration from 6% growth the prior quarter.

Clearly, higher prices that the company had pushed through by the start of the quarter—the third such wave of price increases since August of 2021 in response to cost inflation—more than offset declines in volume. The company said elasticities, or the degree to which consumers reduce their purchases in response to price increases, were less than it expected in the quarter.

Organic sales growth was 15% for the meals and beverages segment, which includes Campbell's namesake soups, and the snacks segment, which includes things like Kettle chips and Pepperidge Farm cookies. Adjusted gross margins ticked up from the prior quarter and declined only slightly from

### 7%-9%

Expected growth in organic sales for the company's fiscal year

a year earlier. And the company raised guidance for sales and earnings per share for its full fiscal year through July. It now expects organic sales growth of 7% to 9% for the period, up from a forecast given just three months earlier of 4%-to-6% growth.

Campbell shares rose 6% on Wednesday. They are up 22% this year, making them one of the best-performing food stocks in a strong year for the category. The S&P 500 was down 17%.

During times of inflation or other economic stress, it is normal for consumers to turn more to cooking at home and value-tier products like condensed soup. History suggests small indulgences like chips and cookies have been resilient during downturns.

But there is a bit more than that going on here. Campbell's success in pushing through wave after wave of price increases wouldn't have been possible without the work Mr. Clouse has done since taking over in January 2019 to renovate its brands and improve their image.

In condensed soups, this has included redesigning the can labels to give them a more modern look, removing out-of-favor ingredients like high-fructose corn syrup and adding more appealing ones such as fresh cream. In the "Chunky" line of soups, it included a new line of spicy soups, and a marketing campaign aimed at young men through things like social media and Madden videogames.

The lesson is an old one for food companies but one they seem to need to relearn every so often: Constant investment and reinvention is needed to keep brands resilient and relevant to consumers.

The battle against inflation isn't over. The company said Wednesday that its internal measure of its core cost inflation came to 18% in the October quarter, accelerating from 15% the prior quarter. In response, it is planning a fourth wave of "selective" price increases that will take effect this fiscal year.

The risk is that price increases will start to take a bigger bite out of sales, but Campbell's recent record suggests it can handle the challenge. *—Aaron Back*